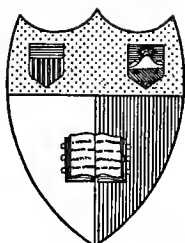


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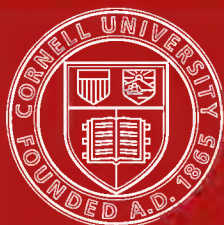


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P. 2

JAPAN: TRADE DURING THE WAR

A STUDY OF THE TRADE OF JAPAN, PARTICULARLY DURING THE YEARS 1913 TO 1917 AND WITH SPECIAL REFERENCE TO THE TRADE WITH THE UNITED STATES



WASHINGTON
GOVERNMENT PRINTING OFFICE
1919

UNITED STATES TARIFF COMMISSION
WASHINGTON

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INTRODUCTION.

This report is a study of the effect of war conditions upon the foreign trade of Japan, with particular reference to the changes in the trade between Japan and the United States. It forms a part of a larger study, which the Tariff Commission has in preparation, dealing with the tariff system and commercial and industrial conditions in Japan.

The report is divided into three principal sections, as follows:

I. Development of Japan's foreign trade prior to the war.

This section reviews the history of Japan's trade from 1856 to 1913. Special attention has been given to the growth of Japan's trade, the changes in the distribution of her trade, by principal groups of commodities, among countries and continents, and the status of her commerce in 1913, the last year before the war.

II. Expansion of Japan's foreign trade during the war.

This section deals with the trade of Japan during the years 1913-1917 by groups of merchandise, each group comprising raw, semi-manufactured, and manufactured articles more or less related to each other. First there is presented the import and export trade in all articles in a given group; then the principal articles are considered separately. For each article the increase or decrease in the trade is indicated for both imports and exports, and the relative standing of the countries of origin or destination is shown.

III. Trade between Japan and the United States.

The United States has held first place in the trade of Japan for many years. The third section of this report shows the character of the trade between these two countries and the changes that have taken place therein, especially since 1913. Although the Japanese exports to the United States still largely exceed the imports from the United States, the excess has diminished during the war, owing in the main to Japan's increased imports of American cotton, iron, and steel.

The Commission has had the services of Dr. STANLEY K. HORNBECK and JOHN J. ERNSTER in the preparation of this report.

JAPAN: FOREIGN TRADE DURING THE WAR.

I.

DEVELOPMENT OF JAPAN'S FOREIGN TRADE PRIOR TO THE WAR.

To appreciate the phenomenal development of the foreign trade of Japan since the outbreak of the European war, it is necessary to give some attention to its earlier history. Six decades will account for the whole course of modern Japanese foreign trade. The last two decades, since 1897, are the years of chief interest.

The first of Japan's commercial treaties were concluded in the years 1856-1858. In the treaties of 1858 the rates of import and export duties were fixed by agreement, and a few important ports were opened to foreign commerce. The total trade during the next ten years was of insignificant proportions. In 1866 the conventional tariffs were revised; the rates of duty then fixed, amounting in general to 5 per cent *ad valorem*, remained in force thereafter for more than thirty years. Following the Restoration, in 1867, the people and the Government of Japan began to turn their attention to commercial and to industrial development. The opening of the Suez Canal and the building of railways across the United States, together with other improvements in the means of communication, afforded facilities which led promptly to an expansion of the trade between Japan and western countries.

Beginning with 1868, Japanese official trade returns are available. They improve in accuracy and detail in later years, and they are on the whole the most satisfactory of the figures available for a study of Japan's foreign trade.

In the interval between 1869 and 1890 Japan reorganized her administrative system; a constitutional government was established on a firm basis, and both the Government and the people found it possible to devote themselves increasingly to the promotion of productive industry. This of course had its effect upon foreign trade. On the side of export trade the steady depreciation of silver in those years was indirectly an important factor in bringing about the increase.

War with China—1894.

The war with China, 1894-1895, interrupted the growing trade but little. After the war industrial enterprises of many types developed and expanded; the importation of machinery and raw materials of various descriptions for industrial purposes suddenly increased, and there followed a ten-year period during which the annual imports continuously exceeded the exports. Between the years 1896 and 1914 there were but two years—1906 and 1909—in which the exports exceeded the imports, and in these two years the excess of exports was small. Since the outbreak of the war the exports have greatly exceeded the imports.

Imports and exports, 1868-1917.¹

[Value in thousands of yen.]

Year.	Total trade.	Total imports.	Total exports.	Excess of imports.	Excess of exports.
1868.....	26,247	10,693	15,554	.....	4,861
1869.....	33,693	20,784	12,909	7,875	.....
1870.....	48,285	33,742	14,543	19,199	.....
1871.....	39,885	21,917	17,968	3,949	.....
1872.....	43,201	26,175	17,026	9,149	.....
1873.....	49,743	28,107	21,636	6,471	.....
1874.....	42,779	23,462	19,317	4,145	.....
1875.....	48,587	29,976	18,611	11,365	.....
1876.....	51,676	23,966	27,711	.....	3,746
1877.....	50,769	27,421	23,348	4,073	.....
1878.....	58,863	32,875	25,988	6,887	.....
1879.....	61,129	32,953	28,176	4,777	.....
1880.....	65,022	36,627	28,395	8,232	.....
1881.....	62,250	31,191	31,059	132	.....
1882.....	67,168	29,447	37,721	.....	8,274
1883.....	64,713	28,445	36,268	.....	7,823
1884.....	63,544	29,673	33,871	.....	4,198
1885.....	66,504	29,357	37,147	.....	7,790
1886.....	81,045	32,168	48,877	.....	16,709
1887.....	96,712	44,304	52,408	.....	8,104
1888.....	131,161	65,455	65,706	.....	251
1889.....	136,164	66,104	70,060	.....	3,956
1890.....	138,332	81,729	56,603	25,126	.....
1891.....	142,455	62,927	79,528	.....	16,601
1892.....	162,429	71,326	91,103	.....	19,777
1893.....	177,970	88,257	89,713	.....	1,456
1894.....	230,728	117,482	113,246	4,236	.....
1895.....	265,373	129,261	136,112	.....	6,851
1896.....	289,517	171,674	117,843	53,831	.....
1897.....	382,436	219,301	163,135	56,166	.....
1898.....	443,256	277,502	165,754	111,748	.....
1899.....	435,332	220,402	214,930	5,472	.....
1900.....	491,692	287,262	204,430	82,832	.....
1901.....	508,166	255,817	252,349	3,468	.....
1902.....	530,034	271,731	258,303	13,428	.....
1903.....	606,638	317,136	289,502	27,634	.....
1904.....	690,622	371,361	319,261	52,100	.....
1905.....	810,072	488,538	321,534	167,004	.....
1906.....	842,539	418,784	423,755	.....	4,971
1907.....	926,880	494,467	432,413	62,054	.....
1908.....	814,503	436,257	378,246	58,011	.....
1909.....	807,311	394,199	413,112	.....	18,913
1910 ²	922,663	464,234	458,429	5,805	.....
1911.....	961,240	513,806	447,434	66,372	.....
1912.....	1,145,974	618,992	526,982	92,010	.....
1913.....	1,361,892	729,432	632,460	96,972	.....
1914.....	1,186,837	595,736	591,101	4,635	.....
1915.....	1,240,757	532,450	708,307	.....	175,857
1916.....	1,883,896	756,428	1,127,468	.....	371,040
1917.....	2,638,816	1,035,811	1,603,005	.....	567,194

¹ Figures from Japan Department of Finance, Annual Return of the Foreign Trade of the Empire of Japan, 1917. On the value of the yen, see page 9.

² Since September 1, 1910, the trade with Korea has been excluded from the Japanese foreign trade returns. In 1909, 6.5 per cent of Japan's exports went to Korea, and 3.5 per cent of her imports were from Korea.

Gold Standard, Tariff, and Treaties, 1897-1899.

In 1897 Japan adopted the gold monometallic system. In the same year it also enacted a statutory tariff and abolished export duties. Between 1894 and 1899 the commercial treaty revision, which had been the subject of negotiations for twenty years, was effected, and in 1899 the old treaties terminated and the new treaties went into effect. Under the new treaties Japan was no longer restricted in the making of her tariff. However, in four of the treaties rates of duty were "fixed" in respect to certain commodities, and these rates became generally applicable through the operation of the most-favored-nation clause.

Value, Weights, and Measures.

When the gold standard was adopted in 1897 the gold value of the yen became fixed. From then until the present its value has been, in terms of United States currency, \$0.498. For purposes of approximate conversion, it is convenient to consider 1 yen (Japanese) as equal to \$0.50 (United States), or \$1 (United States) as equal to 2 yen (Japanese), but the more accurate figures have been used in this report.

The figures used in this report are chiefly those given in official Japanese publications.¹ The values quoted are in most cases in yen. It is convenient for the purposes of this survey to use the Japanese official figures; although these do not always agree with the corresponding import and export figures of other countries, they are the most comprehensive, uniform, and easily available, and therefore the most satisfactory for a statistical study of Japan's trade. In comparing Japanese import and export statistics with those of the United States it must be taken into account that in the former the figures represent the trade of Japan proper, while in the latter they represent the trade of the whole Japanese Empire. The only land measurements used in this report, those which appear in connection with the production of certain foodstuffs, are given in acres. The Japanese unit for areas under cultivation is the "cho," which is equal to 2.45064 acres. Quantity measures, especially for foodstuffs, are given in the Japanese trade returns in "koku," one koku being equivalent to 5.11902 bushels (dry, United States). Weights are quoted in various tables in piculs, kwan, kin, or momme, the equivalents of which in United States standards are as follows:

1 picul equals 133½ pounds.

1 kwan equals 8.26733 pounds.

1 kin equals 1½ pounds.

1 momme equals 0.008267 pounds.

¹ Especially the Annual Return of the Foreign Trade of the Empire of Japan, by the Department of Finance, volumes from 1868 annually; the Financial and Economic Annual, volumes from 1901; and the Statistical Reports of the Department of Agriculture and Commerce of Japan, 1915 and 1916.

Japan's Trade Since the Adoption of the Gold Standard (1897).

The total trade of Japan for the years since the gold standard was adopted is compared with the total trade of the United States in the following table:

Total foreign trade of Japan and of the United States, 1897-1917.¹

[In thousands.]

Year.	Japan.		United States.	Per cent increase or decrease (—) over preceding year.	
	Yen.	Equivalent in dollars.	Dollars.	Japan.	United States.
1897	382,436	190,453	1,815,724	.....	.....
1898	443,256	220,741	1,847,532	16.90	1.75
1899	435,332	216,795	1,924,172	— 1.79	4.15
1900	491,692	244,863	2,244,424	12.95	16.64
1901	508,166	253,067	2,310,937	3.35	2.96
1902	530,034	263,957	2,285,040	4.30	— 1.12
1903	606,638	302,106	2,445,861	14.45	7.04
1904	690,622	343,930	2,451,915	13.84	7.25
1905	810,072	403,416	2,636,075	17.30	7.51
1906	842,539	419,584	2,970,427	4.01	12.68
1907	926,880	461,586	3,315,273	10.01	11.61
1908	814,503	405,622	3,055,115	— 12.12	— 7.85
1909	807,311	402,041	2,974,931	— .88	— 2.63
1910	922,663	459,486	3,301,932	14.29	10.99
1911	961,240	478,698	3,576,546	4.18	8.32
1912	1,145,974	570,695	3,857,587	19.22	7.86
1913	1,361,892	678,222	4,278,892	18.84	10.92
1914	1,186,837	591,045	4,258,505	— 12.85	— .48
1915	1,240,757	617,897	4,442,759	4.54	4.33
1916	1,883,896	938,180	6,531,366	51.83	47.01
1917	2,638,816	1,314,130	8,949,404	40.07	37.02

¹ Calendar years for Japan; years ending June 30 for the United States.

Small though it was relatively, Japan's foreign trade had made rapid advances in the decade preceding 1897. It amounted in 1897 to 382,400,000 yen, which was four times the figure of 1887 and more than twice that of 1893. This represented a per capita trade of 8.85 yen. In the same year, 1897, the per capita trade of the United States amounted to \$25.44, equivalent to 51.09 yen.

In 1899 the Japanese tariff law of 1897 went into effect. In anticipation of this there had been in the year 1898 unusually large importations; consequently, as compared with 1898, the trade of the year 1899 showed a decrease.

The Boxer troubles of 1900 in North China interfered slightly with the course of Japan's rapidly growing trade; the exports fell in 1900 by some 10,000,000 yen, but the imports had increased very rapidly, and the total trade showed a substantial increase.

War with Russia, 1904.

The outbreak of hostilities between Japan and Russia in 1904 was followed by the requisitioning of many vessels, while land communications were kept very busy with the transportation of forces and munitions. The dangers of navigation brought on a heavy rise in freight and insurance rates and for a time caused great inconvenience to trade. After Japan gained the command of the sea, her trade steadily increased. The import trade in particular showed a remark-

able expansion owing to the increased importation of munitions and military supplies. Much merchandise was also imported in anticipation of increases in customs duties occasioned by the necessities of war finance. In 1905 there was a great increase in the importation of raw materials and machinery to be used in the manufacture of munitions, and of various materials required for the repair and building of warships and other vessels. There was again hastening of importation in anticipation of further increases in customs duties. With the conclusion of the war there came naturally a sudden falling off in the imports of war supplies, but confidence in the economic future of the country occasioned the importation of raw materials for manufacturing purposes. The restoration of order in Asiatic Russia and in Manchuria, together with the fact that Japan had acquired a new interest in the latter, increased the trade of Japan with these regions. In 1906 the rise in the price of silver favored the sale of goods to silver-using countries, especially China. The export trade attained an unprecedented degree of prosperity, causing an increase in imports of raw materials from abroad for manufacturing purposes; moreover, in anticipation of the coming into operation of the new import tariff which took effect from October, 1906, there was a marked increase in the importation of certain other articles. But, on account of the falling off in the importation of war material and supplies, the total imports for 1906 showed a decrease by about 70,000,000 yen from the total of the preceding year. The total exports were in 1906, for the first time in ten years, in excess of the imports. As compared with the exports of 1903, the last year before the Russo-Japanese War, they showed an increase of 134,000,000 yen. The figures for the two years were: Imports, 1903, 317,000,000 yen; 1906, 418,700,000 yen. Exports, 1903, 289,500,000 yen; 1906, 423,700,000 yen.

In 1907 both the import and the export totals increased over the preceding year, the former by 75,680,000 yen, the latter by 8,660,000 yen. These increases occurred in spite of a fall in the price of copper—an important export—the depreciation in the value of silver, and the blow to the silk trade which was a consequence of the financial crisis in the United States. The increases in imports were largely of raw materials, ship-building materials, machines and machinery, foodstuffs and miscellaneous commodities for which the rise in the national standard of living created an increased demand.

The next seven years, 1908–1914, show at first a decline in the total foreign trade, followed by recovery and marked increases. After the annexation of Korea, and beginning with September, 1910, the trade between Japan and Korea was no longer entered in the figures of Japan's foreign trade. Also, in 1911, Japan's commercial treaties with foreign powers were again revised and a new tariff law went into effect.

Years Immediately Preceding the European War.

The period 1911–1914 was the most prosperous that Japan's trade had known up to that time. In 1911 the imports made a complete recovery and showed a substantial increase over those of any preceding year; the exports showed a slight decrease.

From then until the outbreak of the European war there was a steady increase in both imports and exports. For the three years, 1911, 1912, and 1913, the total trade was 3,469,100,000 yen; the imports, 1,862,200,000 yen; the exports, 1,606,700,000 yen; the excess of imports, 255,200,000 yen. The averages for the three years before 1914 were, therefore, as follows: Average of total trade, 1,156,300,000 yen; average of imports, 621,000,000 yen; average of exports, 535,600,000 yen; average excess of imports, 85,000,000 yen.

In the export trade the increased shipments of raw silk, habutae, silk handkerchiefs, and straw braids were due to a great extent to the favorable condition of the American trade. The increasing importance of the exports of cotton yarns, cotton fabrics, cotton manufactures, and refined sugar in the trade with China was, in considerable measure, a consequence of the rise in the value of silver and the restoration of comparative order after the Chinese revolution.

The increase in the import trade was mainly accounted for by greater importations of raw materials for manufacturing, such as ginned cotton, wool, woolen yarns and vegetable fibers, iron and steel; also, of wheat, wheaten flour, chemical and mineral fertilizers, woolen textiles, kerosene, and rice. There was, however, a decrease in the value of the imports of manufactured articles. The increase in the imports of raw materials and the decrease in those of manufactured articles were consequences of the development of Japanese textile manufactures, shipbuilding, and mechanical industries. The increased demand for foreign provisions, chiefly rice and sugar, was partly the natural result of the growth of an industrial population and partly a consequence of the damage done by storms to the crops in Japan proper and Formosa.

Japan's Foreign Trade in the Year before the Beginning of the War, 1913.

The outbreak of the war in 1914 affected Japan's trade, along with that of other countries, adversely. For the purpose of comparing Japan's trade during the war with that preceding the war, the figures of later years may be compared, with particular convenience and advantage with the figures of the year 1913.

THE TRADE IN GENERAL, 1913.

The total trade of Japan in the year 1913 amounted to 1,361,892,000 yen. This represented an increase of 18.8 per cent over the trade of 1912. The imports amounted to 729,431,644 yen, an increase of 17.8 per cent; and the exports amounted to 632,460,213 yen, an increase of 20 per cent.

On the side of imports, the development of the textile and metal industries accounted for the increased importation of animal and vegetable fibers, iron, and machinery; the failure of crops of rice and sugar occasioned an increase in the importation of these commodities; and the industrial progress and general development of the export trade led to the increased importation of raw materials.

On the side of the export trade, the increase in the purchasing power of China, resulting from consecutive abundant harvests and a period of comparative order after the revolution, together with the successful flotation of foreign loans; the restoration of peace in Europe

at the conclusion of the Balkan wars; and the greatly increased foreign demand for raw silk, account in considerable measure for the expansion.

The trade by regions and countries in 1913 was as follows:

Japan's foreign trade in 1913, by countries of origin and destination.

[Value in thousands of yen.]

Country.	Imports.		Exports.		Total trade.	
	Value.	Per cent of total import trade.	Value.	Per cent of total export trade.	Value.	Percentage with each country.
Asia:						
British India.....	173,174	23.74	29,873	4.72	203,047	14.91
China.....	61,223	8.39	154,661	24.45	215,884	15.86
Kwantung.....	30,878	4.23	29,836	4.72	60,714	4.46
Dutch East Indies.....	37,389	5.13	5,149	.81	42,538	3.12
French Indo-China.....	24,700	3.38	1,055	.17	25,755	1.89
Philippine Islands.....	7,648	1.05	6,284	.99	13,932	1.02
Straits Settlements.....	5,205	.71	10,142	1.60	15,347	1.13
Siam.....	5,793	.79	1,035	.16	6,828	.50
Asiatic Russia.....	750	.11	4,271	.68	5,021	.37
Hongkong.....	1,295	.18	33,622	5.32	34,917	2.56
Total Asia.....	348,055	47.71	275,928	43.62	623,983	45.82
Europe:						
Great Britain.....	122,737	16.83	32,870	5.20	155,607	11.43
France.....	5,829	.80	60,230	9.52	66,059	4.85
Belgium.....	9,448	1.29	3,706	.59	13,153	.97
Italy.....	1,078	.15	29,417	4.65	30,495	2.24
Russia.....	41	.01	4,897	.77	4,938	.36
Germany.....	68,395	9.38	13,132	2.08	81,527	5.99
Austria Hungary.....	3,890	.53	938	.15	4,827	.35
Other European countries.....	8,872	1.22	2,035	.32	10,909	.80
Total Europe.....	220,290	30.21	147,225	23.28	367,515	26.99
America:						
United States.....	122,408	16.78	184,473	29.17	306,882	22.53
British America.....	1,839	.25	5,090	.80	6,930	.51
Other American countries.....	2,788	.38	2,198	.35	4,984	.37
Total America.....	127,035	17.41	191,761	30.32	318,796	23.41
Australia.....	14,943	2.05	8,638	1.37	23,581	1.73
Egypt.....	7,143	.98	1,371	.22	8,514	.62
Hawaii.....	91	.01	4,992	.79	5,083	.37
All other countries.....	11,875	1.63	2,545	.40	14,420	1.06
Grand total.....	729,432		632,460		1,361,892	

The figures in the foregoing table show that in the year preceding the war the preponderance of Japan's trade was with Asiatic countries; 47.71 per cent of the imports came from the regions in that part of the globe, while 43.62 per cent of the exports went to those regions. The trade with European countries accounted for 27 per cent of the total; that with North and South American countries amounted to 23.4 per cent, and almost the whole of the latter was with the United States.

The following table affords a basis for comparing Japan's trade with Asia, Europe, and North and South America, respectively, in selected years:

[Values in thousands of yen.]

	1907		1913		1917	
	Value.	Per cent total Japanese trade.	Value.	Per cent total Japanese trade.	Value.	Per cent total Japanese trade.
Asia.....	391,862	42.28	623,983	45.82	1,179,627	44.70
Europe.....	289,580	31.24	367,516	26.98	417,359	15.82
North and South America.....	218,782	23.61	318,796	23.41	880,324	33.36

The following table affords a basis for comparing Japan's trade with certain countries in selected years:

[Values in thousands of yen.]

Country.	1897	1907	1913	1915	1916	1917
United States.....	79,467	211,798	306,882	306,676	544,324	838,245
British India.....	35,339	87,681	203,047	189,788	251,082	325,205
China.....	50,591	144,802	215,883	226,970	301,351	451,652
Great Britain.....	73,887	138,688	155,607	126,578	184,390	265,951
France.....	31,361	49,558	66,059	46,184	68,474	102,185
Germany.....	20,350	58,923	81,527	5,919	4,139	2,520
Italy.....	3,195	14,714	30,495	3,311	4,575	18,389
Australia.....	2,772	12,613	23,581	46,679	71,109	60,224

Examination of the trade in 1913 with individual countries shows that the greatest trade, in value, was, as usual, that with the United States, the combined imports and exports in that trade amounting to 23 per cent of Japan's total trade. The next largest trade was that with China, and this was closely followed by that with British India, each amounting to about 15 per cent of the total. In the character of the trade, however, there was a great difference: Japan's trade with British India consisted chiefly of imports, that with China chiefly of exports. From British India, Japan imports raw cotton; to China she sells cotton piece goods and other manufactures. The trade with Great Britain amounted to 11 per cent of the total; that with Germany, to 6 per cent; with France, to 5 per cent; with Italy, to 2 per cent. The trade with Great Britain and Germany consisted chiefly of imports; that with France and Italy of exports.

The total trade between Japan and the United States was almost twice as great as that between Japan and Great Britain; the Japanese exports to the United States were more than five times those to Great Britain. The United States sent to Japan goods to the value of 122,408,000 yen, and purchased from Japan goods to the value of 184,474,000 yen. Japan's exports to China, her second best customer, were less by 30,000,000 yen than those to the United States. The commodities imported by Japan from the United States were principally raw cotton, iron and steel, and machinery. Foremost among the purchases of the United States from Japan was raw silk

The following table affords a basis for comparing Japan's import trade by regions for selected years:

[Values in thousands of yen.]

	1897	1907	1913	1915	1916	1917
Asia.....	95, 185	200, 096	348, 055	301, 916	368, 289	475, 516
Europe.....	95, 050	195, 213	220, 290	79, 021	108, 442	82, 176
North and South America.....	27, 160	82, 758	127, 035	106, 736	212, 501	376, 764

The following table affords a basis for comparison of Japan's imports from the specified countries for selected years:

[Values in thousands of yen.]

Country.	1897	1907	1913	1915	1916	1917
United States.....	27, 031	80, 697	122, 408	102, 534	204, 079	359, 708
British India.....	29, 776	74, 593	173, 174	147, 585	179, 465	223, 941
China.....	29, 266	59, 182	61, 223	85, 848	108, 639	138, 271
Great Britain.....	65, 406	116, 245	122, 737	58, 084	81, 732	63, 304
France.....	5, 148	7, 025	5, 829	3, 891	4, 468	4, 365
Germany.....	18, 143	47, 668	68, 395	5, 919	4, 139	2, 520
Italy.....	213	943	1, 078	299	702	436
Australia.....	897	7, 819	14, 943	28, 571	43, 333	32, 935

The following table affords a basis for comparing Japan's exports by regions for selected years:

[Values in thousands of yen.]

	1897	1907	1913	1915	1916	1917
Asia.....	59, 581	191, 766	275, 928	341, 534	505, 487	704, 111
Europe.....	41, 665	94, 867	147, 225	126, 086	216, 449	335, 183
North and South America.....	54, 498	136, 024	191, 761	213, 191	355, 946	508, 561

The following table affords a basis for comparison of Japan's exports to the specified countries for selected years:

[Values in thousands of yen.]

Country.	1897	1907	1913	1915	1916	1917
United States.....	52, 436	131, 101	184, 473	204, 142	340, 245	478, 537
British India.....	5, 563	13, 088	29, 874	42, 202	71, 617	101, 364
China.....	21, 325	85, 619	154, 660	141, 123	192, 713	318, 881
Great Britain.....	8, 481	22, 443	32, 870	68, 494	102, 658	202, 646
France.....	26, 214	42, 533	60, 230	42, 293	64, 007	97, 821
Germany.....	2, 207	11, 256	13, 132			
Italy.....	2, 982	13, 771	29, 417	3, 012	3, 872	17, 953
Australia.....	1, 875	4, 794	8, 638	18, 098	27, 776	27, 289

The development of Japan's export trade has been most marked, first, with Asia, and secondly with America (the United States, especially). It will be shown later that the great increase in her exports to Asia has been in manufactured goods, while the increase in the exports to America has been in raw materials (chiefly raw silk) and partly manufactured goods.

TRADE BY ARTICLES.

The following tables show the value of Japan's imports and exports by groups of commodities, in each year from 1907 to 1917:

Imports and exports by groups.

IMPORTS.

(Values in thousands of yen.)

Year.	Food, drink, and tobacco, in natural state.	Food, drink, and tobacco, partly or wholly prepared.	Raw materials.	Partly manufactured articles.	Completely manufactured articles.	Miscellaneous ("other").	Total.
1907.....	48,011	30,647	187,682	93,007	132,985	2,135	494,467
1908.....	41,078	27,203	153,428	84,009	127,128	3,411	436,257
1909.....	32,014	19,388	169,205	71,752	99,458	2,381	394,199
1910.....	25,523	19,465	231,349	82,852	102,514	2,530	464,234
1911.....	35,749	15,875	231,714	100,407	126,359	3,701	513,806
1912.....	49,508	22,546	299,354	122,805	121,170	3,698	618,992
1913.....	77,458	43,125	353,542	126,927	124,029	4,351	729,432
1914.....	52,119	26,621	328,741	96,253	87,249	4,753	595,736
1915.....	20,008	18,134	339,836	98,377	51,473	4,623	532,450
1916.....	14,673	16,774	431,904	201,561	85,002	6,514	756,428
1917.....	20,285	16,560	564,610	322,507	103,705	8,163	1,035,811

EXPORTS.

Year.	Food, drink, and tobacco, in natural state.	Food, etc., partly or wholly prepared.	Raw materials.	Partly manufactured articles.	Completely manufactured articles.	Miscellaneous ("other").	Total.
1907.....	17,111	27,583	43,690	198,929	142,254	2,845	432,413
1908.....	14,288	26,691	41,300	170,384	121,328	4,255	378,246
1909.....	18,102	30,428	36,902	200,915	122,571	4,195	413,113
1910.....	19,573	31,914	40,184	225,034	137,331	4,394	458,429
1911.....	20,769	31,319	40,053	212,988	137,290	5,014	447,434
1912.....	22,203	32,810	44,461	265,043	155,731	6,735	526,982
1913.....	24,655	37,488	51,340	328,084	184,914	5,979	632,460
1914.....	26,105	37,418	45,492	306,360	167,890	7,837	591,101
1915.....	37,434	42,683	45,423	323,401	242,867	16,499	708,307
1916.....	47,336	57,220	59,014	540,924	380,723	42,251	1,127,468
1917.....	73,498	98,690	81,484	725,577	588,155	35,602	1,603,005

The following table shows the percentages of the specified classes of articles in the trade of Japan for each year from 1907 to 1917:

PER CENT OF TOTAL IMPORTS REPRESENTED BY—

Year.	Food, drink, and tobacco, in natural state.	Food, etc., partly or wholly prepared.	Raw materials.	Partly manufactured articles.	Completely manufactured articles.	Miscellaneous ("other").
1907.....	9.7	6.2	38.0	18.8	26.9	0.4
1908.....	9.4	6.2	35.2	19.3	29.1	.8
1909.....	8.1	4.9	42.9	18.2	25.3	.6
1910.....	5.5	4.2	49.8	17.8	22.1	.6
1911.....	7.1	3.1	45.1	19.5	24.6	.7
1912.....	8.0	3.6	48.4	19.8	19.6	.6
1913.....	10.6	5.9	48.5	17.4	17.0	.6
1914.....	8.7	4.5	55.2	16.2	14.6	.8
1915.....	3.7	3.4	63.8	18.5	9.7	.9
1916.....	1.9	2.2	57.1	26.6	11.3	.9
1917.....	2.0	1.6	54.5	31.1	10.0	.8

PER CENT OF TOTAL EXPORTS REPRESENTED BY—

Year.	Food, drink, and tobacco, in natural state.	Food, etc., partly or wholly prepared.	Raw materials.	Partly manufactured articles.	Completely manufactured articles.	Miscellaneous ("other").
1907.....	3.9	6.4	10.1	46.0	32.9	0.7
1908.....	3.8	7.0	10.9	45.0	32.1	1.2
1909.....	4.4	7.4	8.9	48.6	29.7	1.0
1910.....	4.3	7.0	8.8	49.1	29.9	.9
1911.....	4.6	7.0	9.0	47.6	30.7	1.1
1912.....	4.2	6.2	8.4	50.3	29.6	1.3
1913.....	3.9	5.9	8.1	51.9	29.2	1.0
1914.....	4.4	6.4	7.7	51.8	28.4	1.3
1915.....	5.2	6.0	6.4	45.8	34.3	2.3
1916.....	4.2	5.1	5.2	48.0	33.8	3.7
1917.....	4.6	6.1	5.1	45.3	36.7	2.2

Imports.—In the Japanese imports in 1913, raw materials and partly manufactured articles for further use in manufacturing constituted 65 per cent of the total, raw materials alone amounting to 48 per cent.

Among the raw materials, the most important item, in fact the first in value among all the Japanese imports, was raw cotton (ginned and in the seed), amounting in quantity to 89,000,000 pounds, in value to yen 233,599,187, and representing 32 per cent of the total imports. Of this cotton, 61 per cent came from British India and 27 per cent from the United States. The following table shows the imports of ginned cotton for the period 1913–1917, and their relative importance in the total Japanese import trade.

Imports of ginned cotton, 1913–1917.

[Values in thousands of yen.]

Year.	Total import trade.	Imports of ginned cotton.			
		Total from all countries.	From United States.	From British India.	From China.
1913.....	729,432	231,481	64,220	143,012	16,206
1914.....	595,736	217,873	53,966	145,428	11,745
1915.....	532,450	216,472	55,654	139,705	15,067
1916.....	756,428	274,478	79,370	165,155	19,337
1917.....	1,035,811	329,954	84,085	204,311	30,596

Oil cake was second in value to cotton. The total imports of oil cake amounted to nearly 40,000,000 yen, constituting $5\frac{1}{2}$ per cent of the total imports. This commodity was imported chiefly from China and the Leased Territory of Kwantung (Manchuria). It is used in Japan almost exclusively for fertilizing purposes.

Crude sulphate of ammonia, to the value of nearly 16,000,000 yen, was supplied almost entirely by Great Britain. It is used in the manufacture of fertilizer and as a base for making other ammonia salts. Wool to the value of 16,000,000 yen was supplied, in practically equal shares, by Australia and Great Britain. Hemp to the value of 7,000,000 yen was imported from the Philippines, China, and British India, in the order named. Hard coal was imported for the use of the Japanese steel mills to the value of 4,000,000 yen.

Among the imports of partly manufactured articles, iron and steel, valued at 58,000,000 yen, held first place. This represented 7.9 per cent of the total imports. More than half of the iron and steel imports consisted of bars, rods, plates, sheets, and wire. Of the iron and steel imports, 52 per cent came from Great Britain, 27 per cent from Germany, and the remainder chiefly from the United States.

The imports of completely manufactured articles represented 17 per cent of the total. The principal items were machines and engines, amounting in value to a little over 36,000,000 yen and making up 5 per cent of the total. In this trade Great Britain supplied 46 per cent. Other imports in this class were woolen fabrics from Great Britain and Germany, kerosene oil from the United States and the Dutch East Indies, and cotton fabrics—chiefly from Great Britain.

Imports under the classification "Food, drink, and tobacco," accounted for 16.5 per cent of the total. The various items aggregated 120,000,000 yen. Among these, rice, to the value of 48,000,000 yen, constituted 6.65 per cent, and brown sugar, to the value of 36,549,000 yen, constituted 5.04 per cent of the total imports of all articles. The rice imported was supplied in almost equal shares by British India and French Indo-China. Of the brown sugar, 90 per cent came from the Dutch East Indies and the balance from the Philippine Islands. The 1913 imports of rice and of wheat and wheat flour were considerably larger than those of the preceding year, owing to the crop failure in Japan. The increase in the imports of sugar was due to damage done to the Formosan sugar crop by storms, together with the increased demand for sugar to be refined for export.

Exports.—The principal class of exports in 1913 was that of partly manufactured articles, this class representing 51.87 per cent of the total exports.

As in the case of imports, where a single item, raw cotton, out-ranked all other commodities and represented nearly one-third of the total imports, so among exports, one single item, raw silk, constituted nearly 30 per cent of the total. Raw silk was exported from Japan in 1913 to the value of 189,000,000 yen; of this, the United States took 67 per cent; France, 17 per cent; Italy, 13 per cent; and Russia, a little over 2 per cent.

Export of raw silk, 1913-1917.

Year.	To all countries.			To United States.		To France.	
	Total value (thousands of yen).	Quantity (thousands of kin).	Value per 100 kin (yen).	Value (thousands of yen).	Per cent of total value.	Value (thousands of yen).	Per cent of total value.
1913.....	188,917	20,229	934	125,909	66.65	32,129	17.01
1914.....	161,797	17,149	943	134,800	83.31	15,468	9.56
1915.....	152,031	17,814	853	127,349	83.77	20,401	13.42
1916.....	267,037	21,742	1,228	224,093	83.92	31,686	11.86
1917.....	355,155	25,829	1,375	306,170	86.21	35,074	9.88

The place which Japanese raw silk has held in recent years in the total United States importation of raw silk, and its importance relative to the imports of silk manufactures, may be judged from the following figures for the years 1910 to 1917:

Imports into the United States of raw silk and of silk manufactures, 1910-1917.¹

Year.	Total imports of raw silk (value).	Imports of raw silk from Japan (value).	Per cent of total raw silk imports.	Imports of spun silk, pile fabrics, ribbons, bandings, beltings, bindings, etc. (value).
1910.....	\$65,424,784	\$40,103,780	61.30	\$32,888,459
1911.....	72,713,984	47,248,347	64.98	28,858,278
1912.....	67,173,382	47,316,331	70.44	24,556,871
1913.....	82,147,523	57,192,420	69.62	27,590,478
1914.....	97,828,243	71,344,861	72.73	35,454,786
1915.....	80,531,785	58,804,325	73.02	25,042,670
1916.....	119,484,223	88,057,600	73.70	31,911,793
1917.....	156,085,649	124,924,951	80.04	40,322,840

¹United States Commerce and Navigation.

Next in importance among the exports of partly manufactured articles, as well as among all exports, was the item cotton yarns. The value of Japan's exports of cotton yarns in 1913 was nearly 71,000,000 yen; it constituted over 11 per cent of the total export trade. Practically all of Japan's cotton yarn went to China: China proper received 85 per cent; the leased territory, Kwantung, 5 per cent; and Hongkong, 8 per cent—most of this probably being for reshipment to other parts of China.

Copper, in ingot and slab, has long been important among the partly manufactured articles exported from Japan. Exported in 1913 to the value of 28,000,000 yen, it represented some 4½ per cent of the total exports. China was the principal purchaser, taking about one-third, while Great Britain, France, British India, and the United States followed, in the order named. Straw, chip, and hemp braids for hats were exported to the value of 16,000,000 yen, representing some 2 per cent of the total exports. Of the hat braid exported, 43 per cent went to the United States, 26 per cent to Great Britain, 14 per cent to France, and 10 per cent to Germany. Colza oil, fish oil, sulphur, camphor, and menthol crystal, in the order named, were of considerable importance in the export trade.

The class of completely manufactured articles held in 1913 second place in Japan's export trade, making up 29.2 per cent of the total. The principal item was silk fabrics (total 39,000,000 yen), of which habutae alone, amounting in value to 35,000,000 yen, represented 5½ per cent of the total exports. The principal purchasers of habutae were, in the order of their importance, France, Great Britain, British India, the United States, and Australia; the percentages of the habutae exports taken by these countries were, respectively, 27.84, 21.52, 19.53, 14.35, and 5.61.

The second largest individual item among the exports of completely manufactured articles was cotton fabrics. Taken collectively, cotton manufactures would constitute the largest item, but in the Japanese statistics they are distributed in a number of schedules and groups. The exports of cotton fabrics in 1913 were valued at 34,000,000 yen; cotton towels amounted to 2,642,000 yen; cotton knit undershirts, to 8,847,000 yen. China was the chief consumer of Japan's piece goods, while several other Asiatic countries were important among the purchasers of Japan's miscellaneous cotton manufactures.

The match exports, valued at nearly 12 million yen, or practically 2 per cent of the total exports, were purchased in 1913 almost entirely by China, Hongkong, and British India.

Other important items among the exports of completely manufactured articles were: silk handkerchiefs, 5,000,000 yen; hats, caps, and bonnets, 5,619,000 yen; buttons, 3,312,000 yen; paper, 3,096,000 yen; pottery, 6,724,000 yen; glass and glass manufactures, 3,319,000 yen; mats and matting, 4,054,000 yen; toys, 2,490,000 yen; and umbrellas (European), 1,831,000 yen.

Food products, classed as "Food, drink, and tobacco," ranked next in importance in the export trade, constituting nearly 10 per cent of the total. Japan imports large quantities of brown sugar and exports refined sugar, the latter being the most important item among the exports of food stuffs. The refined sugar exports amounted in 1913 to 15,831,000 yen, 2½ per cent of the total exports.

All of this sugar went to China; about 90 per cent to China proper; and 7.6 to the leased territory of Kwantung.

Second in importance among the exports of food products was tea, the export in 1913 amounting to 10,076,000 yen, 1.1 per cent of the total export. Of this tea, 87.8 per cent went to the United States, nearly 10 per cent to Canada, and smaller quantities to China and other Asiatic countries.

Also important among the exports of food products were rice, fish and other sea products, saké and beer, and comestibles in tins and bottles.

The least important among the classes of exports was raw materials, representing 8 per cent of the total, valued at 51,300,000 yen. The most important item was coal, to the value of 23,600,000 yen, 3.7 per cent of the total export. Of the coal exports, 31 per cent went to China; 26.5 per cent to Hongkong; 15 per cent to the Straits Settlements; 9.7 per cent to the Philippine Islands; 4.6 per cent to British India; and 4.7 per cent to the United States, the last named consisting of lump or bunker coal for American vessels and of coal for Hawaii. The coal exported is soft or bunker coal for the use of ships; for hard coal for industrial purposes Japan is herself dependent on foreign countries.

Next in importance among the raw materials exported in 1913 was wood, the exports in that year amounting to 10,943,000 yen, 1.5 per cent of the total exports. Of this wood there went to China 35.8 per cent; to the United States, 12.1 per cent; to Kwantung, 10.2 per cent; to British India, 9.8 per cent; to Australia, 4.9 per cent; to Great Britain, 3.1 per cent; to France, 2 per cent; the balance to other countries, in smaller proportions.

In the following tables the total import and export figures for the year 1913 are compared with those of a previous year, 1907, and of a succeeding year, 1917, by regions and countries:

Imports, 1907, 1913, and 1917.

[Values in thousands of yen.]

Imported from—	1907		1913		1917	
	Value.	Per cent of total import trade.	Value.	Per cent of total import trade.	Value.	Per cent of total import trade.
Asia:						
China.....	59,182	11.97	61,223	8.39	133,271	12.87
Kwantung.....	8,810	1.78	30,878	4.23	53,180	5.13
British India.....	74,593	15.08	173,174	23.74	223,941	21.62
Hongkong.....	821	.17	1,295	.18	1,804	.17
Korea.....	16,372	3.31	(¹)	(¹)	(¹)	(¹)
Straits Settlements.....	3,062	.62	5,205	.71	15,050	1.45
Asiatic Russia.....	1,656	.33	750	.11	3,755	.36
French Indo-China.....	8,663	1.75	24,700	3.38	7,296	.71
Dutch East Indies.....	22,039	4.46	37,389	6.13	17,333	1.67
Philippine Islands.....	2,159	.44	7,648	1.05	15,335	1.48
Siam.....	2,739	.55	5,793	.79	4,353	.42
Other Asiatic countries.....					197	.02
Total, Asia.....	200,096	40.46	348,055	47.71	475,516	45.90
Europe:						
Great Britain.....	116,245	23.51	122,737	16.83	63,304	6.11
France.....	7,025	1.42	5,829	.80	4,365	.42
Germany.....	47,668	9.64	68,395	9.38	2,520	.24
Austria-Hungary.....	2,552	.52	3,890	.53	23	.....
Belgium.....	13,398	2.71	9,448	1.29	13	.....

¹ Beginning with September, 1910, the trade with Korea is excluded from the Japanese trade returns.

Imports, 1907, 1913, and 1917—Continued.

[Values in thousands of yen.]

Imported from—	1907		1913		1917	
	Value.	Per cent of total import trade.	Value.	Per cent of total import trade.	Value.	Per cent of total import trade.
Europe—Continued.						
Italy.....	943	0.19	1,078	0.15	436	0.04
Russia.....	175	.03	41	.01	1,309	.13
Other European countries.....	7,207	1.46	8,872	1.22	10,206	.99
Total, Europe.....	195,213	39.48	220,290	30.21	82,176	7.93
North and South America:						
United States.....	80,697	16.32	122,408	16.78	359,708	34.73
British America.....	1,217	.25	1,839	.25	2,557	.25
Other American countries.....	844	.17	2,788	.38	14,499	1.40
Total, America.....	82,758	16.74	127,035	17.41	376,764	36.38
Australia.....	7,819	1.58	14,943	2.05	32,935	3.18
Egypt.....	3,457	.70	7,143	.98	10,907	1.05
Hawaii.....	19	.....	90	.01	259	.03
All other countries.....	5,105	1.04	11,876	1.63	57,254	5.53
Grand total imports.....	494,467	100.00	729,432	100.00	1,035,811	100.00

Exports, 1907, 1913, and 1917.

[Values in thousands of yen.]

Exported to—	1907.		1913.		1917.	
	Value.	Per cent of total export trade.	Value.	Per cent of total export trade.	Value.	Per cent of total export trade.
Asia:						
China.....	85,619	19.80	154,660	24.45	318,381	19.85
Kwantung.....	20,401	4.72	29,836	4.72	65,725	4.10
British India.....	13,088	3.03	29,873	4.72	101,364	6.32
Hong Kong.....	24,385	5.64	33,622	5.32	57,176	3.57
Korea.....	32,792	7.58	(¹)	.....	(¹)	.....
Straits Settlements.....	5,768	1.33	10,142	1.60	28,024	1.75
Asiatic Russia.....	5,068	1.17	4,271	.68	74,234	4.63
French Indo-China.....	250	.06	1,055	.17	3,766	.23
Dutch East Indies.....	2,261	.52	5,149	.81	36,245	2.26
Philippine Islands.....	1,796	.42	6,284	.99	16,868	1.05
Siam.....	338	.08	1,035	.16	2,208	.16
Total Asia.....	191,766	44.35	275,928	43.62	704,111	43.92
Europe:						
Great Britain.....	22,443	5.19	32,870	5.20	202,646	12.64
France.....	42,533	9.84	60,230	9.52	97,821	6.10
Germany.....	11,256	2.60	13,132	2.08	.....	.....
Austria-Hungary.....	1,149	.26	.....	.15	.....	.....
Belgium.....	2,054	.47	3,706	.59	.....	.....
Italy.....	13,771	3.18	29,417	4.65	17,953	1.12
Russia.....	442	.10	4,897	.77	13,515	.84
Other European countries.....	719	.18	2,035	.32	3,248	.21
Total Europe.....	94,367	21.82	147,225	23.28	335,183	20.91
North and South America:						
United States.....	131,101	30.32	184,473	29.17	478,537	29.85
British America.....	3,864	.89	5,090	.80	16,158	1.01
Other American countries.....	1,059	.25	2,198	.35	8,866	.55
Total America.....	136,024	31.46	191,761	30.32	503,561	31.41
Australia.....	4,794	1.11	8,638	1.37	27,289	1.70
Egypt.....	386	.09	1,371	.22	13,507	.84
Hawaii.....	3,469	.80	4,992	.79	6,443	.41
All other countries.....	1,606	.37	2,547	.40	12,911	.81
Grand total exports.....	432,413	100.00	632,460	100.00	1,603,005	100.00

¹ Beginning with September, 1910, the trade with Korea is excluded from the Japanese trade returns.

Relation of the Import Trade to the Export Trade, 1913.

Japan's import trade in 1913 was greater by nearly 100,000,000 yen than her total export trade. The imports consisted, as stated above, mainly of raw materials, partially manufactured articles, and food-stuffs; that portion which consisted of manufactured articles was made up chiefly of machinery, woolen and cotton fabrics, kerosene oil, and paper. Comparison of the figures for 1907 and 1913 gives an indication of the tendencies in the development of Japanese industries and trade. In 1907 the imports of raw materials constituted 38 per cent of the total, those of partially manufactured goods, 18.8 per cent; in 1913 the imports of raw materials constituted 48.5 per cent, those of partially manufactured articles, 17.4 per cent. The tendency is shown still more clearly when the survey is extended into the period of the war. In 1915 the imports of raw materials constituted 63.8 per cent of the total. Japan was becoming increasingly a producer of manufactured products for export. In the four years following 1913 the balance of Japan's trade was destined to swing from an excess of imports of 97,000,000 yen (1913) to an excess of exports of 567,000,000 yen (1917). The remarkable development of Japan's export trade has taken place chiefly in the field of manufactured and partly manufactured goods; many of these articles could only be produced from imported raw materials and imported partly manufactured materials.

A comparative view of Japanese trade in 1913 and that of important western European nations and of the United States is given in the following table:

Foreign trade in 1913.

Country.	Total foreign trade.	Population.	Per capita value of foreign trade.
United Kingdom.....	\$5,763,907,000	46,036,000	\$125.20
Germany.....	4,966,665,000	67,095,000	74.02
United States.....	4,223,610,000	100,102,000	42.19
France.....	2,969,067,000	39,602,000	74.98
Austria-Hungary.....	1,253,785,000	51,505,000	24.34
Japan.....	678,222,000	52,985,000	12.80

II.

EXPANSION OF JAPAN'S TRADE DURING THE WAR.

During the period of the war there have occurred striking changes in the commerce and industry and in the financial position of Japan. Between 1913 and 1917 the total foreign trade almost doubled in value, having increased more rapidly than that of any other country except the United States. The remarkable increase has consisted in major portion of a growth in exports. In 1913 the total value of the exports was 632,460,000 yen; in 1917 it was 1,603,005,000 yen. The imports increased during the same period from 729,432,000 yen in 1913 to 1,035,811,000 yen in 1917. The interruption of trade between Europe and the Far East gave Japanese merchants and producers an exceptional opportunity. The promptness and effectiveness with which they improved the opportunity is shown by the figures of the exports of manufactured goods to China, British India, and other oriental countries, and by the increases in the exports of manufactured goods and raw silk to western nations—particularly to the United States.

The effective development of Japanese manufacturing industries for the supply both of the export and the domestic trade explains the increase in imports. Raw materials and partly manufactured articles have been the most conspicuous among the greatly increased imports.

The value of the exports has increased, however, much more rapidly than that of the imports, with a consequent reversal in Japan's foreign trade balance. Before 1914 the imports normally exceeded the exports by an annual average (1910-1913) of 65,000,000 yen. In 1914 there was still a slight balance in favor of imports; in the three years, 1915-1917, the excess of exports has averaged 371,000,000 yen. The excess in 1917 was no less than 567,200,000 yen. There resulted a great importation of specie into Japan, rapidly rising prices, and great business activity. The government has been able to make payments on foreign indebtedness and to make loans abroad. The trading classes have prospered, but there are indications that the working classes have suffered on account of a greater increase in the cost of living than in wages.

The following, quoted from the "London Economist" of February 2, 1918, page 161 (quoting its Yokohama correspondent), illustrates the remarkable increase in prices which have taken place in Japan since the outbreak of the war:

According to investigations made by the Bank of Japan, the following rises in price in the commodities mentioned have taken place in this country since the war broke out:

	Per cent.		Per cent.
Rice.....	71	Iron.....	600
Barley.....	58	Indigo.....	350
Beans.....	77	Eggs.....	54
Wheat.....	63	Firewood.....	74
Soy.....	80	Charcoal.....	49
Coal.....	250	Petroleum.....	67
Matches.....	200	Wool satin.....	150
Cement.....	300	Mousseline.....	200
Copper.....	200	Shirtings.....	200
French nails.....	450	Cotton yarn.....	200

No kinds of goods have shown greater rises or more violent fluctuations than drugs and chemicals. Here are three examples, giving prices per 100 pounds:

Articles.	1913	1917
	<i>s. d.</i>	<i>£. s. d.</i>
Caustic soda.....	11 8	3 14 0
Chlorate of potash.....	17 0	7 6 0
Phenol.....	1 6	2 10 0

The phenomenal industrial development and the consequent increase in capacity for production must exert a great influence upon Japan's future position in the world's markets. At the same time the problem of securing raw materials for manufacturing industries becomes a matter of growing concern to Japan. The raw materials upon which her industries are dependent must to an increasing extent be secured abroad.

SURVEY OF JAPAN'S TRADE SINCE 1913, BY GROUPS OF MERCHANDISE.

The Japanese trade returns (monthly) show 17 groups of merchandise for imports and 16 for exports, the extra group in the import trade consisting of plants and animals, of which no mention is made in the export trade. The plant and animal group is No. I in the import returns. The remaining groups, Nos. II to XVII of the import returns, correspond, respectively, to groups Nos. I to XVI of the export returns.

Percentage of total imports represented by specified groups of merchandise, 1913-1917.

Group.	1913	1914	1915	1916	1917
<i>Group I.</i> —Plants and animals.....	0.07	0.02	0.04	0.01	0.01
<i>Group II.</i> —Grains, flours, starches, and seeds.....	10.86	9.02	4.66	2.59	2.67
<i>Group III.</i> —Beverages, comestibles, and tobacco.....	6.09	4.85	3.78	2.47	1.82
Sugar and confectionery.					
Alcoholic liquors.					
Beverages and comestibles.					
Tobacco.					
<i>Group IV.</i> —Skins, hair, bones, horns, teeth, tusks, shells, and manufactures thereof.....	1.23	1.37	2.37	2.44	1.60
<i>Group V.</i> —Oils, fats, waxes, and manufactures thereof.....	2.77	2.87	3.24	2.30	1.88
<i>Group VI.</i> —Drugs, chemicals, medicines, compounds, or preparations thereof and explosives.....	5.43	6.27	5.75	7.33	6.27
<i>Group VII.</i> —Dyes, pigments, coatings, and filling matters.....	1.56	1.36	1.38	1.12	.90
<i>Group VIII.</i> —Yarns, threads, cordages, and materials thereof.....	37.21	42.01	49.35	43.18	39.67
<i>Group IX.</i> —Tissues and manufactures thereof.....	3.59	3.04	1.98	1.70	1.42
Tissues of cotton.					
Tissues of flax, hemp, or jute.					
Tissues of wool.					
Other.					
<i>Group X.</i> —Clothing and accessories thereof.....	.18	.15	.07	.09	.09
<i>Group XI.</i> —Paper, paper manufactures, books and pictures.....	1.79	1.75	1.84	2.15	.81
<i>Group XII.</i> —Minerals and manufactures thereof.....	1.94	2.58	1.75	1.37	2.12
<i>Group XIII.</i> —Potteries, glass, and glass manufactures.....	.55	.49	.24	.34	.30
<i>Group XIV.</i> —Ores and metals.....	9.96	9.03	11.02	19.94	25.53
Iron.					
Other.					
<i>Group XV.</i> —Metal manufactures.....	2.10	1.42	.77	1.41	1.75

Percentage of total imports represented by specified groups of merchandise, 1913-1917—Continued.

Group	1913	1914	1915	1916	1917
<i>Group X VI.</i> —Clocks, watches, scientific instruments, firearms, vehicles, vessels, and machinery..	7.00	5.78	2.77	4.14	4.55
Clocks and watches.					
Scientific instruments and firearms.					
Vehicles and vessels.					
Machinery.					
<i>Group X VII.</i> —Miscellaneous articles.....	7.10	7.24	8.03	6.55	7.47
Parcel post.....	.39	.50	.41	.63	.55
Traveling effects.....	.06	.05	.04	.05	.04
Total foreign produce.....	99.88	99.80	99.49	99.81	99.45
Re-imports.....	.12	.20	.51	.19	.55
Total.....	100.00	100.00	100.00	100.00	100.00

Percentage of total exports represented by specified groups of merchandise, 1913-1917.

Group.	1913	1914	1915	1916	1917
<i>Group I.</i> —Grains, starches, and seeds.....	1.09	1.53	3.45	3.20	4.97
<i>Group II.</i> —Beverages, comestibles, and tobacco.....	8.63	8.90	7.64	6.05	5.70
Tea.					
Aquatic products.					
Sugar and confectionery.					
Alcoholic liquors.					
Other beverages and comestibles.					
Tobacco.					
<i>Group III.</i> —Skins, hair, horns, tusks, etc., and manufactures thereof.....	.66	.54	.85	.51	.47
<i>Group IV.</i> —Oils, fats, waxes, and manufactures thereof.....	1.58	1.42	1.43	1.92	1.81
<i>Group V.</i> —Drugs, chemicals, medicines, and explosives.....	3.81	4.03	4.34	5.04	4.11
<i>Group VI.</i> —Dyes, pigments, coatings, and filling matters.....	.08	.08	.29	.50	.41
<i>Group VII.</i> —Yarns, threads, cordages, twines, and materials thereof.....	43.73	42.45	32.72	32.76	31.31
Silk.					
Other.					
<i>Group VIII.</i> —Tissues and manufactures thereof....	13.91	13.74	16.08	12.78	14.08
Silk tissues.					
Cotton tissues.					
Other tissues.					
Tissues, manufactures of.					
<i>Group IX.</i> —Clothing and accessories thereof.....	4.10	4.04	5.16	5.84	4.03
<i>Group X.</i> —Paper and paper manufactures.....	.86	.80	.90	1.27	1.38
<i>Group XI.</i> —Minerals and manufactures thereof.....	3.95	4.35	3.13	2.16	1.96
<i>Group XII.</i> —Pottery, glass, and glass manufactures..	1.59	1.51	1.82	1.99	1.81
<i>Group XIII.</i> —Ores and metals.....	4.98	5.35	9.14	10.68	10.72
<i>Group XIV.</i> —Metal manufactures.....	.57	.59	1.10	1.47	1.83
<i>Group XV.</i> —Clocks, scientific instruments, vessels, and machinery.....	1.02	.88	1.42	3.10	7.35
<i>Group XVI.</i> —Miscellaneous.....	8.25	8.04	7.54	6.69	4.92
Parcel post.....	.73	1.02	1.82	3.07	1.99
Total Japanese produce.....	99.54	99.27	98.83	99.03	98.85
Re-exports.....	.46	.73	1.17	.97	1.15
Total.....	100.00	100.00	100.00	100.00	100.00

IMPORTS OF PLANTS AND ANIMALS.

(Group I of Imports.)

Even in normal times this group was of very little importance as compared with the whole import trade, amounting to only 538,000 yen in 1913 out of a total import trade of 729,000,000 yen. Horses for breeding purposes, originating mainly in Great Britain, Australia, France, and China, were valued at 457,000 yen. Bulls, oxen, and cows, valued at 51,000 yen, came from Great Britain. Practically

no cattle for slaughtering are imported, the main diet of the Japanese people consisting of fish and rice. The foreign population is mainly dependent upon small imports of frozen meats from Australia and China. The balance of the imports of Group I, 30,000 yen, in 1913, was made up of miscellaneous animals and plants. During the war the importation of animals gradually decreased, until in 1917 the value of imports of the whole group amounted to only 99,087 yen.

TRADE IN GRAINS, FLOURS, STARCHES, AND SEEDS.

(Group II of Imports and Group I of Exports.)

This group formerly occupied a prominent place in the import trade of Japan. The domestic production of certain of the food-stuffs comprised within this group was not sufficient to meet the needs of the Japanese people. The principal items in the group are rice, wheat, wheat flour, soya beans, red or white beans, rape seed and mustard seed, and cotton seed. The exports of articles in the group were, prior to the war, very small, and consisted almost wholly of rice. But the outbreak of the war was followed by difficulties of transportation and by increased demands from the European countries. Attracted by the increase in prices, Japanese agriculturists intensified their production to such an extent that they have been able to free Japan from dependence on foreign supplies and even to develop a surplus for export.

The following table indicates the extent of the change, in respect to grains, flours, starches, and seeds, from an importing to an exporting basis which has occurred during the war period:

Japan's trade in grains, flour, starches, and seeds, 1913-1917.

[Values in thousands of yen.]

Year.	Imports.			Exports.		
	Total value.	Grains, etc.		Total value.	Grains, etc.	
		Value.	Per cent of total.		Value.	Per cent of total.
1913.....	729,432	79,226	10.86	632,460	6,892	1.09
1914.....	595,736	53,717	9.02	591,101	9,017	1.53
1915.....	532,450	24,803	4.66	708,307	24,467	3.45
1916.....	756,428	19,580	2.59	1,127,468	36,135	3.20
1917.....	1,035,811	27,617	2.67	1,603,005	79,716	4.97

Imports of grains, etc., decreased from 79,000,000 yen, 10.86 per cent of the total imports into Japan in 1913, to 27,000,000 yen, only 2.67 per cent of the total imports in 1917. Exports in this group, on the other hand, increased from over 6,000,000 yen, 1.09 per cent of the total exports in 1913, to over 79,000,000 yen, 4.97 per cent of the total exports in 1917. A decrease of 65 per cent in the value of the imports in 1913-1917 contrasts with an increase of 1,056 per cent in the value of the exports in the same period. An excess of imports over exports amounting to over 70,000,000 yen in 1913 was transformed into an excess of exports over imports amounting to more than 50,000,000 yen in 1917.

A study of the trade by individual commodities follows:

Rice.—In 1913 rice comprised 61 per cent of the imports of articles classified in this group. Rice is the principal food crop and the most important article of the Japanese diet. The area of land devoted to its cultivation in Japan in 1916 was over 7,500,000 acres, and the crop produced amounted to nearly 300,000,000 bushels. Prior to the war the domestic production was not sufficient to meet Japan's needs. Difficulties of transportation, the increased demand for rice from the United States and from European countries, the export from Japan of considerable quantities of other products which formerly were used in its place—all of these factors contributed to enhance the price of rice. This in turn led to more intensive cultivation, to decreased imports, and to increased exports. In 1917 there also appears to have been a decided decrease in the per capita domestic consumption. The figures are given in the following table:

Production and consumption of rice, in thousands of bushels,¹ 1913–1917.

Year.	Production.	Imports.	Exports.	Domestic consumption.	Population (official estimates).	Per capita consumption.
						<i>Bushels.</i>
1913.....	257,257	26,942	1,440	282,759	53,363,000	5.29
1914.....	291,816	14,984	1,840	304,960	54,216,000	5.63
1915.....	286,278	3,389	1,713	287,954	55,084,000	5.23
1916.....	299,598	2,290	1,878	299,579	55,965,000	5.35
1917.....	273,265	4,181	5,425	272,021	56,861,000	4.78

¹ 1 bushel=45 pounds of "rough rice."

In 1917 there was a decrease in the rice crop; at the same time, an increasing population and decreasing imports. There was a sharp rise in the price of rice; at the close of April, 1918, the price stood at \$4.18 per 100 pounds (27.70 yen per koku) as compared with \$2.49 per 100 pounds (16.50 yen per koku) a year earlier. The rise in price was officially attributed to excessive speculation. The price of rice is a very important factor in the family budget of the working-class in Japan. In order to prevent distress to the poorer classes, the Japanese Government decided upon several important measures. Speculation in rice futures was closely restricted. By imperial order of April 26, 1918, the Minister of Agriculture and Commerce was authorized to take control of the import trade, and he restricted the importation to four designated firms. The domestic sale price of the imported rice was fixed, and where the import price was higher than the sale price the Government refunded the difference (constituting a virtual remission of duty) to the importer. These measures were not sufficient, however, to prevent great hardship to the poorer classes, and in the latter part of the year there occurred serious riots in the larger cities.

The following table shows the Japanese imports and exports of rice in quantities and values, by countries:

Imports and exports of rice, 1913-1917.

[Values in thousands of yen.]

	1913		1914		1915		1916		1917		Per cent of increase or decrease (—), 1913-1917.
	Value.	Per cent of total.	Value.	Per cent of total.	Value.	Per cent of total.	Value.	Per cent of total.	Value.	Per cent of total.	
IMPORTED FROM—											
China.....	845	1.74	531	2.14	170	3.48	154	4.99	120	1.85	—85.80
British India.....	20,031	41.32	7,466	30.07	648	13.26	39	1.25	65	.99	—99.68
French Indo-China.....	22,268	45.94	12,821	51.65	1,434	29.35	344	11.13	2,333	35.82	—89.52
Siam.....	5,206	10.74	3,863	15.56	2,563	52.46	2,531	81.96	3,938	60.47	—24.36
Other countries.....	122	.26	143	.58	71	1.45	20	.67	57	.87	—53.28
Total.....	48,472	100.00	24,824	100.00	4,886	100.00	3,088	100.00	6,513	100.00	—86.56
Total quantity in thousands of piculs.....	9,092		5,057		1,144		773		1,411		—84.49
Average value per picul.....	5.33		4.91		4.27		3.99		4.62		
Per cent imports of rice are of total imports.....	6.65		4.17		.92		.41		.63		
EXPORTED TO—											
Kwantung.....	119	2.72	62	1.25	97	1.00	118	1.05	161	1.10	35.29
Asiatic Russia.....	50	1.14	32	.64	48	.50	837	7.48	505	3.44	910.00
Great Britain.....	1	.02	228	4.58	2,491	25.74	3,491	31.18	4,220	28.78	421.90
France.....					244	2.52	111	.99	942	6.42	
United States.....	1,400	32.01	1,549	31.14	2,803	28.97	2,122	18.95	3,173	21.64	126.64
Canada.....	486	11.11	638	12.83	880	9.09	1,123	10.03	1,079	7.36	122.02
Australia.....	50	1.14	47	.95	137	1.41	164	1.46	104	.71	108.00
Hawaii.....	2,215	50.66	2,330	46.84	2,351	24.29	2,626	23.45	2,651	18.08	19.68
Other countries.....	52	1.20	88	1.77	626	6.48	605	5.41	1,828	12.47	3,415.38
Total.....	4,373	100.00	4,974	100.00	9,677	100.00	11,197	100.00	14,663	100.00	235.31
Total quantity in thousands of piculs.....	486		621		1,578		1,634		1,831		276.75
Average value per picul.....	9.00		8.00		6.13		6.85		8.01		
Per cent exports of rice are of total exports.....	.69		.84		1.37		.99		.91		

While more than half of Japan's exports of rice consists of husked or cleaned rice, her imports are almost wholly of cheaper rice and paddy. The rice which enters into Japan's foreign trade, both import and export, is but a small fraction of the domestic production. French Indo-China, British India, and Siam have always been the main sources of Japan's imports of rice. In the case of Japan's rice exports, however, there has been some change during the war in the countries of destination. Until 1913 Hawaii, the United States, Canada, and the Leased Territory of Kwantung were the important purchasers of Japanese rice. With the beginning of the war Great Britain, Australia, France, and Asiatic Russia entered the market. In 1917 these countries took more than 39 per cent of the total Japanese rice exports, Great Britain alone taking over 28 per cent—whereas in 1913 they had taken only 2.3 per cent.

Wheat.—Until 1916 the war had brought about no appreciable change in the domestic production of wheat. In 1916, however, the farmers, attracted by the greatly increased price of wheat, turned from the cultivation of barley to the cultivation of wheat, and as a result, in 1916 and 1917, the area under cultivation in wheat, and the crops therefrom were much larger than they had been in any previous years. Japan has never exported sufficient quantities of wheat in the grain to call for separate enumeration in her trade statistics. As will be shown later, however, she exports considerable quantities of wheat flour.

The following table gives figures of Japanese production of wheat:

Acreage and production of wheat, 1913-1917.

Year.	Acres.	Bushels.	Average yield per acre (bushels).
1913.....	1,184,475	26,756,741	22.58
1914.....	1,172,759	22,975,295	19.59
1915.....	1,226,855	26,772,723	21.82
1916.....	1,303,466	30,137,314	23.12
1917.....	1,392,239	34,738,593	24.95

¹ These figures are taken from the Thirty-second and Thirty-third Statistical Reports of the Department of Agriculture and Commerce of Japan (1915 and 1916). The Japanese figures are expressed in koku which have been converted into United States bushels (dry) at 1 koku=5.119 bushels.

While the average yield per acre may seem very high it is lower than the average production of some American states. The average yield per acre in Nevada is 32 bushels per acre; in Arizona and Utah 28 bushels. The average yield per acre in the United Kingdom is about 33 bushels and in Germany it was, before the war, 31 bushels.

Japan has long been an importer of wheat, and prior to the war the imports were considerable. After the outbreak of the war the imports of wheat into Japan showed a marked decrease. Owing to high freight charges and to the increased demand on the part of Europe, the wheat imports from the United States, which prior to the war had been over 75 per cent of the total wheat imports, became only a small fraction of the total. They were replaced in part by imports from Australia, and, in 1915 and subsequently, by greatly increased imports from China and Kwantung. The figures are given in the following table:

Imports of wheat, 1913-1917.

[Values in thousands of yen.]

Year.	Total value from all countries.	From United States.		From Australia.		From China.	
		Value.	Per cent of total.	Value.	Per cent of total.	Value.	Per cent of total.
1913.....	12,351	9,492	76.8	2,204	17.84	7	.....
1914.....	8,489	5,573	65.8	2,405	28.33	144	1.69
1915.....	1,639	224	13.6	94	5.73	953	58.14
1916.....	1,356	19	1.4	.....	.....	1,119	82.52
1917.....	666	.....	.....	.....	.....	560	84.08

Wheat flour.—Prior to the outbreak of the war, Japan imported small quantities of wheat flour, originating almost entirely in the United States, with a small fraction from Canada. Since the war the imports have decreased until they are now negligible in amount. In the first years of the war there were some imports of flour from Australia. The figures are given in the accompanying table.

Imports of wheat flour, 1913-1917.

Year.	Total.		From United States.	
	Quantity in 1,000 kin.	Value in in 1,000 yen.	Value in in 1,000 yen.	Per cent of total (value.)
1913.....	28,614	1,780	1,601	89.9
1914.....	20,110	1,264	1,139	90.1
1915.....	3,032	194	174	89.6
1916.....	1,431	95	77	81.1
1917.....	584	59	7	11.2

Before the war Japan used American flour to blend with the coarse Manchurian product and with the domestic product. The American product is now too expensive for the Japanese market. The Japanese do not eat much bread, partly as a matter of habit and taste, partly because rice is cheaper. They are learning, however, to use bread to an increasing extent. They are now making flour from Manchurian wheat, of which large quantities are being exported.

Japan has been greatly increasing her flour-milling capacity. The 13 modern mills in Japan have doubled or trebled their capacity since the outbreak of the war. As a result, the exports of flour have increased considerably, and they now greatly exceed the imports. The American exports of wheat flour to Asiatic countries have decreased considerably since 1914, and Japan has gained an important share of the flour trade in the Far East, formerly held by the United States. Japan is now exporting wheat flour in substantial quantities to Great Britain, China, Kwantung, the Philippines, and to Hongkong for transshipment. The figures are given in the following table:

Exports of wheat flour, 1914-1917.

Exported to—	1914		1916		1917	
	Kin.	Yen.	Kin.	Yen.	Kin.	Yen.
Great Britain.....	.....	.....	8,354,071	615,724	23,688,279	1,985,548
British India.....	995	55	146,648	10,256	23,596	1,620
China.....	933,735	43,484	1,261,123	83,492	21,539,176	1,730,586
Kwantung.....	8,940	488	3,627,658	220,906	21,847,246	1,877,392
Hon'kon'g.....	2,885	190	5,277,812	391,967	45,369,151	3,992,919
Straits Settlements.....	307,280	17,967	8,779,805	633,429	10,282,299	841,101
Dutch East Indies.....	446	28	2,947,086	207,960	8,162,521	670,539
Philippine Islands.....	.....	.....	861,972	62,549	17,237,147	1,396,861
Other countries.....	1,476,363	45,534	287,088	19,824	14,650,100	1,151,828
Total.....	2,729,704	106,686	31,544,163	2,266,107	162,799,515	13,648,394

Barley.—Next to rice, barley is the most important grain product of Japan. It first appeared in Japan's foreign trade, in sufficient quantity to receive separate enumeration in the trade statistics of that country, in 1917. In that year, 3,671,850 kin, valued at 158,837 yen (101,993 bushels valued at approximately \$79,000), were exported. No figures of imports of barley into Japan have yet appeared. The production statistics are as follows:

*Acreeage and production of barley, 1913-1917.*¹

Year.	Acres.	Bushels.
1913.....	1,529,111	54,480,329
1914.....	1,509,962	48,795,137
1915.....	1,459,869	52,488,255
1916.....	1,394,770	48,835,312
1917.....	1,314,981	46,944,481

¹ These figures are taken from the Thirty-second and Thirty-third Statistical Reports of the Department of Agriculture and Commerce of Japan. The figures are given in koku and have been converted into dry United States bushels at 1 koku=5.119 bushels.

As the figures in the above table show, the production of barley in Japan during these five years has fallen considerably, while, as previously shown, in 1917 there were large exports of barley. It would seem, therefore, that the consumption of barley in Japan itself, whether in the form of beer or otherwise, must have been substantially reduced during the war period. The decrease in the Japanese production has been explained by the relatively higher price for wheat, to the production of which much land previously devoted to barley cultivation was turned in 1916 and 1917.

Oats, buckwheat, rye.—Japan exports small quantities of oats and buckwheat. There is some production of rye in Japan, but imports and exports of rye are not separately enumerated. In 1917, when exports of buckwheat were first recorded, 849,000 kin, valued at 50,000 yen, were exported. The figures of exports of oats are given in the table which follows. Of the unusually high exports of 31,163,000 kin in 1915, 20,000,000 kin went to Australia, 8,000,000 kin to Great Britain, and 1,500,000 kin to France. The United States took in that year 880,000 kin.

Exports of oats, 1913-1917.

Year.	Quantity (1,000 kin).	Value (1,000 yen).
1913.....	424	11
1914.....	544	12
1915.....	31,163	1,176
1916.....	2,438	87
1917.....	328	18

Beans and pease.—Beans and pease occupy an important place in the trade of Japan, both in imports and in exports. Japan imports large quantities of soya beans and red or white beans, and she exports large quantities of pease, kidney beans, and groundnuts (peanuts).

Soya (or soy) beans are an important item in the diet of the Japanese people. Soya and miso, important items in the Japanese daily

diet, are made up from this bean either wholly or in part. Soya beans are also made use of to an important extent as fertilizer, as feed for horses, and for the extraction of vegetable oil. The annual production of soya beans in the period 1911 to 1915 averaged over 18,094,000 bushels (3,534,000 koku); and that of red beans about 5,000,000 bushels. In addition there are large imports, mainly from China and Kwantung.

The values and quantities of imports of beans and pease and the percentages which came from the various sources are presented in the table which follows. Over 90 per cent of the imports came from China and Kwantung. The imports in 1916 and 1917 showed a decided decrease in amount as compared with the preceding years.

Imports of beans and pease, 1913-1917.

Year.	Total quantity.	Total value.	Per cent of total imports.	Per cent of total value of imports of beans and pease from—			
				China.	Kwan-tung.	Asiatic Russia.	Other countries.
	<i>Piculs.</i>	<i>Yen.</i>					
1913	2,563,569	10,392,722	1.42	50.11	40.53	3.23	6.13
1914	3,270,137	13,320,735	2.24	39.81	52.51	2.29	5.39
1915	2,608,617	9,289,899	1.74	58.11	35.52	5.64	.73
1916	1,820,000	7,109,193	.94	65.12	28.57	5.03	1.28
1917	2,071,979	9,507,245	.92	58.94	34.54	4.64	1.88

The principal variety among the beans exported is the kidney bean, the exports of which rose from less than half a million yen in value in 1913 to 22,500,000 yen in 1917. The exports of pease, of groundnuts (peanuts), and of "other" beans, also showed great increases; the exports of pease increased from a little over 500,000 yen in value in 1913 to over 8,000,000 yen in 1917, the exports of groundnuts almost doubled in value, and the exports of other beans almost tripled in the same period. This increase in exports contrasts with a decrease in imports. It is to be noted that the unit value of the beans and pease exported was very much greater in 1917 than the unit value of imports of these articles. Thus, in 1917, the average value of the exports per picul, 15.28 yen, contrasts with the much lower value per picul of the imports, 4.59 yen. In 1913 the unit value for imports was 4.05 yen per picul, compared with a unit value for exports of 7.81 yen per picul. When the rise in prices is taken into consideration, it appears that since the outbreak of the war the Japanese are consuming to an increasing extent the cheaper grades and are exporting the better grades of beans and pease.

The following tables show the exports of beans and pease by varieties, quantities, values, and destinations:

Exports of beans and pease (including groundnuts), by variety, 1913-1917.

Year.	Kidney beans.		Pease.		Groundnuts (peanuts)	
	Piculs.	Yen.	Piculs.	Yen.	Piculs.	Yen.
1913.....	60,594	445,651	86,094	561,127	98,801	939,043
1914.....	107,203	832,846	249,533	1,452,824	92,607	961,881
1915.....	536,078	4,662,105	372,550	3,276,046	93,009	919,422
1916.....	573,893	6,758,672	568,509	7,873,069	116,894	1,286,001
1917.....	1,424,119	22,550,918	513,333	8,039,853	140,819	1,835,444

Year.	Other beans and pease.		Total.	
	Piculs.	Yen.	Piculs.	Yen.
1913.....	47,926	344,058	293,415	2,289,879
1914.....	49,239	350,490	498,582	3,598,041
1915.....	29,204	185,263	1,030,841	9,042,836
1916.....	34,216	221,929	1,293,512	16,139,671
1917.....	123,368	1,195,858	2,201,639	33,631,073

Exports of beans and pease (including groundnuts), by country of destination, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917	Per cent increase, 1917 over 1913.
Great Britain.....	466	1,528	3,853	8,124	9,472	1,932.61
France.....		49	2,454	1,715	27	
United States.....	1,333	1,669	2,154	5,618	21,510	1,513.58
Canada.....	222	247	375	479	1,200	440.54
Other countries.....	269	205	207	204	1,414	425.65
Total.....	2,290	3,598	9,043	16,140	33,631	1,368.60

PER CENT DISTRIBUTION.

Great Britain.....	20.37	42.47	42.61	50.33	28.17	.....
France.....	.01	1.36	27.13	10.62	.11	.....
United States.....	58.21	43.61	23.82	34.81	63.96	.....
Canada.....	9.69	6.87	4.15	2.97	3.57	.....
Other countries.....	11.73	5.69	2.29	1.27	4.19	.....
Total.....	100.00	100.00	100.00	100.00	100.00	.....
Total quantity in thousands of kin.....	29,342	49,858	103,084	129,351	220,164	650.34
Average value per kin.....	.078	.072	.088	.125	.153	96.15
Percent exports of beans and pease, etc., are of total exports.....	.36	.61	1.28	1.43	2.10	.....

Until the outbreak of the war, the United States was by far the most important market, and ordinarily took more than half the total Japanese exports of these products. Since 1914 there have been very great increases in the exports to Great Britain, and in 1915 and 1916 these were considerably greater than the exports to the United States. In 1917, however, there was a great increase in the exports to the United States; the value of exports to the United States in 1917, 21,509,000 yen, was almost four times the value of the corresponding exports of the preceding year and was 64 per cent of the total Japan-

ese exports of beans and pease. As the tables exhibited above show, the bulk of the Japanese exports to all countries as well as to the United States consists of kidney beans. The exports to the United States in 1917, by varieties, are shown in the following table:

Exports of beans and pease to the United States in 1917.

Kinds.	Quantity.	Value.
	<i>Kin.</i>	<i>Yen.</i>
Soya bean.....	1,454,501	123,961
Red or white beans, small (<i>Phaseolus subtrilobata</i>).....	3,168,618	303,289
Pease (<i>Pisum sativum</i>).....	9,484,383	1,296,063
Kidney beans.....	117,590,646	18,181,623
Groundnuts (peanuts).....	11,836,069	1,558,665
Other beans and pease.....	276,683	44,969
Total.....	143,810,900	21,508,570

Starch.—In Japan, starch is made from potatoes and from rice. Prior to the war the most important exporters of starch were Germany and the Netherlands. As a result of the total elimination of German starch from the world's markets and the great reduction in the exports from the Netherlands, Japan has produced and exported starch during the war in greatly increased quantities. Prior to 1917 the exports of starch from Japan were not separately enumerated but were grouped with some of the less important grain meals and groats. The exports of this group for the years 1913 to 1917 were as follows:

Exports of "other" flour, meals and groats of grain, and starches, 1913-1917.

Year.	Total.		To the United States.	
	Quantity (1,000 kin).	Value (1,000 yen).	Value (1,000 yen).	Per cent of total.
1913.....	980	116	24	20.69
1914.....	990	123	21	17.07
1915.....	12,975	1,069	39	3.65
1916.....	49,711	4,956	1,304	26.31
1917.....	101,360	15,152	1,912	12.62

In 1917 the total Japanese exports of starch alone were given as 100,100,664 kin valued at 14,966,455 yen. Of this amount, 69,062,699 kin valued at 10,274,391 yen (68.65 per cent of total) were shipped to Great Britain, while the exports to the United States amounted to 13,143,018 kin valued at 1,872,538 yen, or 12.51 per cent of the total. France, Egypt, and British India, in the order named, participated in the remainder of the Japanese exports of starch. The United States trade statistics show that Japan in 1917 supplied the bulk of the United States imports of starch, which have increased greatly since the outbreak of the war.

The United States figures for imports of starch for the years ending June 30, 1913, to 1917 are as follows:

United States: Imports of starch, 1913-1917.

Year.	Total.		From Japan.			
	Quantity (1,000 pounds).	Value (1,000 dollars).	Quantity.		Value.	
			1,000 pounds.	Per cent of total.	1,000 dollars.	Per cent of total.
1913.....	16,710	458	50	0.30	2	0.43
1914.....	15,518	409	52	.34	2	1.49
1915.....	13,233	244	62	.46	3	1.23
1916.....	2,467	124	677	27.44	24	19.35
1917.....	20,648	974	18,009	87.22	800	82.13

Starch is now being used extensively in the manufacture of explosives, which may account for the great increase in Japanese exports and in American imports. Starch is also being used in increased amounts both in the United States and in Japan for sizing yarns and in finishing textiles.

Seeds: Sesame, perilla ocimoides, rape and mustard, cotton and linseed.—The above named oil seeds have long been articles of Japanese importation, necessary to meet the domestic demands which could not be supplied by the local crops.

Imports of seeds, 1913-1917.

Seeds.	1913		1914		1915		1916		1917	
	1,000 piculs.	1,000 yen.	1,000 piculs.	1,000 yen.	1,000 piculs.	1,000 yen.	1,000 piculs.	1,000 yen.	1,000 piculs.	1,000 yen.
Sesame.....	99	797	112	948	199	1,314	164	1,078	91	923
Perilla ocimoides....	75	435	34	200	59	373	85	521	133	819
Rape seed and mustard seed.....	269	1,413	425	2,181	998	4,789	614	3,413	593	4,282
Linseed.....					32	156	114	654	63	360
Cotton seed.....	201	411	240	515	520	1,109	374	807	358	1,036

China, Kwantung, and British India, in the order named, are the principal sources of origin for these Japanese imports, China alone supplying nearly 80 per cent in 1917. The oils obtained from these seeds are being exported in increasing amounts.

Prior to 1917 these commodities were not listed separately among the exports. In 1917, however, for the first time Japan exported 100,192 piculs of rape and mustard seed valued at 1,399,158 yen, and 85,272 piculs of linseed valued at 621,523 yen. More than 90 per cent of the rape and mustard seed went to the United States; nearly 50 per cent of the linseed was taken by Great Britain, 15 per cent by the United States, and 12 per cent each by Australia and Canada.

BEVERAGES, COMESTIBLES, AND TOBACCO.

(Group III of Imports and Group II of Exports.)

For imports this group is subdivided as follows: Sugar and confectionery, alcoholic liquors, other beverages and comestibles, and tobacco. For exports two items are added to the above, tea and marine products.

For the group as a whole, the exports have always been considerably larger than the imports. Since the beginning of the war the importation of these articles has decreased, whereas the exports have greatly increased. The decrease in the value of the imports of over 57 per cent, comparing the figures of 1917 with those of 1913, contrasts with an increase of over 67 per cent in exports in the same period.

The following table shows the value of Japan's imports and exports of beverages, comestibles, and tobacco, and the percentage thereof in the total trade:

Trade in beverages, comestibles, and tobacco, 1913-1917.

[Values in thousands of yen.]

Year.	Value of total imports.	Imports of beverages, comestibles, and tobacco.		Value of total exports.	Exports of beverages, comestibles, and tobacco.	
		Value.	Per cent of total imports.		Value.	Per cent of total exports.
1913.....	729,432	44,459	6.09	632,469	54,577	8.63
1914.....	595,736	28,873	4.85	591,101	52,845	8.90
1915.....	532,450	20,117	3.78	708,307	54,110	7.64
1916.....	756,428	18,643	2.47	1,127,468	68,252	6.05
1917.....	1,035,811	18,900	1.82	1,603,005	91,452	5.70

Sugar.—Japan has long been an importer of considerable quantities of raw sugar of qualities below No. 15, Dutch Standard. Of the total Japanese imports of sugar, ordinarily more than 80 per cent grades between 11 and 15, Dutch Standard, in color. Japan's imports of sugar, by grades and by countries, is given in the following tables:

Imports of raw and refined sugar, 1913-1917, by grades.

Year.	Under No. 11, Dutch Standard.		Under No. 15, Dutch Standard, but not under No. 11.		Other sugar.		Total.	
	Quantity (1,000 piculs).	Value (1,000 yen).	Quantity (1,000 piculs).	Value (1,000 yen).	Quantity (1,000 piculs).	Value (1,000 yen).	Quantity (1,000 piculs).	Value (1,000 yen).
1913.....	1,064	6,023	4,163	29,126	210	1,604	5,437	36,753
1914.....	794	4,394	2,427	16,590	89	695	3,310	21,679
1915.....	673	3,911	1,268	9,824	136	1,070	2,077	14,805
1916.....	383	2,266	968	8,688	250	2,024	1,601	12,978
1917.....	257	1,514	972	9,440	87	743	1,316	11,697

Imports of raw and refined sugar, 1913-1917, by countries of origin.

[Values in thousands of yen.]

Imported from—	1913	1914	1915	1916	1917
China.....	114	1	59	19	109
Hongkong.....	488	352	456	483	244
Dutch East Indies.....	32,381	17,971	12,409	8,530	9,164
Philippine Islands.....	3,573	1,827	1,845	3,933	2,169
Other countries.....	197	1,528	36	13	11
Total.....	36,753	21,679	14,805	12,978	11,697

Imports of raw and refined sugar, 1913-1917, by countries of origin—Continued.

PER CENT DISTRIBUTION.

Imported from—	1913	1914	1915	1916	1917
China.....	.31	1.82	0.40	0.15	0.94
Hongkong.....	1.33	82.90	3.08	3.72	2.09
Dutch East Indies.....	88.11	83.81	65.73	78.34	18.55
Philippine Islands.....	9.72	7.05	30.31	18.55	.08
Other countries.....	.53	.25	.09		
Total.....	100.00	100.00	100.00	100.00	100.00
Per cent which imports of sugar are of total import trade.....	5.04	3.64	2.78	1.72	1.13

The above tables show a marked decrease in Japan's imports of sugar since the outbreak of the war. The bulk of the Japanese sugar imports originates in Java. Since 1915, however, there have been substantial imports of sugar from the Philippines: in 1913 the imports from the Philippines were less than 10 per cent, in 1916 they were 30 per cent, and in 1917 they were over 18 per cent of the total imports.

Japan proper, not including Formosa, has always produced considerable quantities of cane sugar. The Japanese Government early attached importance to the industry and encouraged it by tariff protection and by subsidies. The production has shown some increase since the outbreak of the war. In 1913 the crop estimate was given as 1,094,000 piculs, in 1914 as 1,370,000 piculs, and in 1915 as 1,195,000 piculs. Later figures are not yet available.

Japan exports considerable quantities of sugar, almost all of which is refined. In the tables which follow the exports of refined sugar are shown by quantities and values and also by countries of destination. The exports of raw sugar seem to have been too small to receive separate entry.

Exports of refined sugar, by countries of destination, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917
China.....	14,270	11,526	8,582	12,312	17,511
Kwantung.....	1,199	815	1,524	1,653	3,982
British India.....	78	34	1,657	1,844	1,095
Asiatic Russia.....		2		368	1,792
Other countries.....	284	6	41	245	1,771
Total value.....	15,531	12,383	11,804	16,422	26,151

PER CENT DISTRIBUTION.

China.....	90.13	93.09	72.70	74.98	66.96
Kwantung.....	7.56	6.53	12.91	10.07	15.23
British India.....	.51	.27	14.03	11.23	4.19
Asiatic Russia.....		.01		2.24	6.85
Other countries.....	1.80	.05	.36	1.48	6.77
Total countries.....	100.00	100.00	100.00	100.00	100.00
Per cent which exports of refined sugar are of total export trade.....	2.50	2.09	1.67	1.46	1.63
Total quantity in thousands of kin.....	168,767	131,263	116,508	146,194	220,904
Average value per kin.....	.094	.094	.101	.112	.118

China takes most of the Japanese sugar exports, but since 1915 considerable quantities have been exported to Kwantung Leased Territory and to British India. The exports of sugar decreased from 1913 to 1916, but in 1917 they showed a very marked increase, from 146,000,000 kin in 1916 to 221,000,000 kin in 1917. This increase in exports of refined sugar took place simultaneously with a decrease in the imports of raw sugar, which indicates that there has been an increase in domestic production of raw sugar since 1915 or a decrease in domestic consumption, or both. The 12 Japanese sugar refineries have doubled or trebled their output since the outbreak of the war.

Alcoholic liquors.—The Japanese exports of alcoholic liquors greatly exceed the imports. The liquors imported are different in character, however, from those exported. Wines and whisky are imported mainly from France, Italy, and the United States, while the exports consist for the most part of beer and saké. Saké, a beverage distilled from rice, is the popular alcoholic drink of the Japanese.

Trade in alcoholic liquors, 1913-1917.

Year.	Imports (wines, champagne, whisky, and other).	Exports (saké, beer, and other)
	Yen.	Yen.
1913.....	852,578	3,032,433
1914.....	759,799	3,150,407
1915.....	610,789	3,277,391
1916.....	935,809	4,875,358
1917.....	1,183,051	7,227,935

The exports of Japanese beer are shipped almost wholly to Far Eastern countries. The exports to British India, the largest purchaser, have shown very marked increases, especially in 1917.

The Japanese exports of saké go to Kwantung, China, the United States, and Hawaii, in the order named. The destination of the saké exports indicates that this beverage is consumed only in countries having a considerable number of Japanese residents.

Tea.—Only small quantities of tea are imported into Japan. Tea is one of the important domestic products of Japan, and it constitutes a substantial item in the export trade. The Japanese export chiefly green teas, and these find their most important market in the United States, where they bring prices higher by nearly 50 per cent than the India, Ceylon, and Chinese green teas. The black teas are also shipped to some extent to the United States. Efforts to improve methods in production of black tea of the oolong type have resulted in increased output in recent years, and the exports are beginning to compete in foreign markets with the India and Ceylon product.

Exports of tea, 1913-1917, by quantity.

[Amounts in thousands of kin.]

Year.	To all countries.	To the United States.		To Canada.		To China.		To other countries.	
		Amount.	Per cent of tea exported to all countries.	Amount.	Per cent of tea exported to all countries.	Amount.	Per cent of tea exported to all countries.	Amount.	Per cent of tea exported to all countries.
1913.....	25,522	21,525	84.34	2,453	9.61	1,039	4.07	505	1.98
1914.....	29,607	24,763	83.64	3,273	11.06	830	2.80	741	2.50
1915.....	33,988	28,355	83.42	4,333	12.75	360	1.07	940	2.76
1916.....	38,343	30,714	80.10	5,925	15.45	778	2.03	926	2.42
1917.....	50,170	42,421	84.56	4,926	9.82	1,044	2.08	1,779	3.54

Exports of tea, 1913-1917, by value.

[Values in thousands of yen.]

Year.	To all countries.		To the United States.		To Canada.		To China.		To other countries.	
	Value.	Per cent of total export trade.	Value.	Per cent of tea exported to all countries.	Value.	Per cent of tea exported to all countries.	Value.	Per cent of tea exported to all countries.	Value.	Per cent of tea exported to all countries.
1913.....	10,076	1.59	8,848	87.81	923	9.16	137	1.36	168	1.67
1914.....	12,710	2.15	11,076	87.14	1,284	10.10	118	.92	232	1.84
1915.....	15,402	2.17	13,186	85.61	1,760	11.42	62	.40	394	2.57
1916.....	16,082	1.42	13,309	82.76	2,124	13.21	237	1.47	412	2.56
1917.....	21,756	1.36	18,798	86.39	1,968	9.05	256	1.17	734	3.39

From 1913 to 1917 the total exports of tea doubled in quantity and in value. The United States is the most important market for Japanese teas, ordinarily taking over 80 per cent. Another 10 per cent, usually, is sent to Canada, and the balance goes in small amounts to China and other countries.

Marine products.—With a coast line extending 14,000 nautical miles, touched at different points by both cold and warm currents, Japan is particularly favored in respect to sea products of all kinds. There is a considerable catch of fresh-water fish from the numerous rivers, lakes, and marshes of the country. There are over 400,000 fishing boats in Japan and the fisheries employ some 1,400,000 persons. Salt also is grouped in the Japanese statistics with "marine products."

The value of the fish catch in 1915 was 94,836,000 yen; of the manufactured products, 63,528,000 yen; and of salt, 11,247,000 yen. The Japanese fisheries have reached a high state of development. Some ingenious fishing devices which are used in Japan are not known elsewhere. Although fish is a staple article of the Japanese consumption, the production has been sufficient to permit of a substantial and growing export trade.

Exports of marine products, 1913-1917, by articles.

[Values in thousands of yen.]

	1913	1914	1915	1916	1917
Salt.....	185	266	443	536	482
Seaweeds and cut seaweeds.....	2,041	1,922	1,951	2,461	2,833
Fish, not including shellfish.....	8,183	7,648	4,708	5,680	7,345
Shellfish.....	2,420	2,578	2,161	2,487	2,222
Shark's fins, bêche de mer, and bonito flesh.....	880	1,002	965	1,323	1,307
Total.....	13,709	13,416	10,228	12,487	14,189

Exports of marine products, 1913-1917, by countries of destination.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917
China.....	4,304	4,828	4,427	5,639	6,489
Kwantung.....	436	439	426	516	548
Hongkong.....	5,535	4,547	3,721	4,207	4,876
Straits Settlements.....	775	673	528	667	645
Asiatic Russia.....	192	273	432	537	484
Other countries.....	2,467	2,656	674	921	1,147
Total.....	13,709	13,416	10,228	12,487	14,189

PER CENT DISTRIBUTION.

	1913	1914	1915	1916	1917
China.....	31.40	35.99	43.28	45.16	45.73
Kwantung.....	3.18	3.27	4.17	4.14	3.86
Hongkong.....	40.37	33.89	36.37	33.69	34.36
Straits Settlements.....	5.65	5.02	5.16	5.34	4.57
Asiatic Russia.....	1.40	2.03	4.42	4.29	3.40
Other countries.....	18.00	19.80	6.60	7.38	8.08
Total.....	100.00	100.00	100.00	100.00	100.00

The most important single item in the exports is cuttlefish. Of the total exports in the group in 1917, amounting to 14,189,000 yen, 4,129,606 yen consisted of cuttlefish. Next in importance were seaweeds and codfish. Except in the year 1917, the exports of articles in the group have decreased in value as compared with 1913. The total value for 1917 was slightly greater than the value for 1913. There has been little change in the distribution of marine products during the war period. China and Hongkong are the most important markets; together they take almost 80 per cent of the total Japanese exports in the group.

Miscellaneous comestibles.—Most important of the remaining items in the main group are: Of imports,—salted salmon, salt, eggs, and condensed milk; of exports,—vegetables, fruits, and nuts, soy (sauce), colle or vegetable isinglass, and crabs in tins and bottles.

Trade in miscellaneous comestibles, 1913-1917.

[Values in thousands of yen.]

IMPORTS.

	1913	1914	1915	1916	1917
Salmon, salted.....	430	258	128	72	.....
Salt.....	522	643	347	662	1,830
Eggs, fresh.....	1,479	1,399	1,365	1,133	896
Condensed milk.....	1,857	1,515	1,055	1,038	1,390
All other.....	1,106	938	773	1,022	1,207
Total value.....	5,394	4,753	3,668	3,927	5,323

EXPORTS.

	1913	1914	1915	1916	1917
Vegetables:					
Mushrooms, dried.....	1,408	1,500	1,310	1,655	2,070
Other.....	2,027	1,816	1,979	2,596	2,554
Fruits and nuts.....	2,247	1,860	1,813	1,803	1,410
Soy.....	955	976	987	1,110	1,452
Colle or isinglass (vegetable).....	1,774	1,857	1,706	2,447	1,955
Crabs in tins and bottles.....	1,469	1,472	1,579	3,305	4,454
All other.....	1,402	1,292	3,363	3,784	4,970
Total value.....	11,282	10,773	12,737	16,700	18,865

Imports of salted salmon come from Canada and the United States in about equal quantities. This trade has decreased greatly during the war period, and by 1917 had grown so small that it was not given separate entry.

The imports of salt, on the other hand, have undergone substantial increase during the war period, and are now very much greater than the exports of salt. The imports consisting mainly of crude salt, originate almost wholly in Kwantung.

The imports of fresh eggs decreased during the war period. All of these imports originate in China.

The imports of condensed milk also decreased during this period. They come mainly from the United States and from Great Britain, with small imports also from Switzerland.

As a whole this group shows, for imports, a decrease in value during the war period.

Most of the exports of mushrooms are shipped to Hongkong and China, these two destinations accounting for nearly 80 per cent of the total exports. Small quantities are exported also to the British Straits Settlements, the United States, Hawaii, and other countries.

Over half of the exports of other vegetables are shipped to Asiatic Russia, the balance going in small amounts to a number of other countries.

Mandarins are the most important item in the Japanese exports of fruits, amounting in value to 1,407,875 yen in 1913 and 2,070,298 yen in 1917. Kwantung and Asiatic Russia each take about one-third of the mandarins exported, substantial fractions of the remainder going to Canada and China. The exports to the United States are small, having amounted in 1916 to 102,056 yen.

Apples were next in importance in the Japanese exports of fruit, amounting in 1913 to 587,433 yen and in 1917 to 270,874 yen. Over 75 per cent of these go to Asiatic Russia, the balance going mainly to China, the Philippines, Kwantung, and Hongkong.

Soy is a sauce of which soy beans mixed with parched wheat and rice are the principal ingredients. The United States, Hawaii, Kwantung, and Asiatic Russia are the principal purchasers of Japanese soy.

Colle, or vegetable isinglass, is exported in greatest amount to China, the remainder going to Hongkong, the Dutch East Indies, France, the United States, and other countries.

Crabs in tins and bottles are exported almost wholly to the United States and Great Britain, the first-named country ordinarily taking over 60 per cent of the total. The exports to Great Britain show a relative increase since the beginning of the war. Most of the Japanese crab canneries are in Echigo Province and Karafuto (Japanese Saghalien).

Exports of comestibles, in containers, 1913-1917.

[Comprises awabi, crabs, fishes in oil, other fishes, kamaboko, vegetables, and "other comestibles in tins and bottles."]

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917
United States.....	1,698	1,357	1,272	2,304	2,516
Great Britain.....	473	670	1,301	1,312	2,605
Australia.....	53	79	304	431	345
China.....	179	222	121	211	368
Other countries.....	918	918	646	1,089	1,496
Total.....	3,321	3,246	3,644	5,347	7,330

Most important among the remaining items in the miscellaneous group of comestibles were various fish and vegetables preserved in tins or bottles. They were shipped to a number of countries, most important of which in 1917, from the point of view of the value of their trade, were Great Britain and the United States.

The group of miscellaneous comestibles shows, as a whole, a marked increase in the value of exports in the years 1916 and 1917 as compared with the preceding years.

Tobacco.—The tobacco trade in Japan has been a state monopoly since January, 1898. The monopoly was initiated mainly as a means of securing revenue. It applies to the importation, manufacture, and sale of cigarettes, cigars, and cut tobacco. The Government Monopoly Bureau does not export tobacco directly; it conducts the business through commercial houses, to which it grants licenses.

Imports of tobacco, 1913-1917.

Year.	Leaf.		All other.	Total.
	Quantity (1,000 kin).	Value (1,000 yen).	Value (1,000 yen).	Value (1,000 yen).
1913.....	1,580	895	349	1,244
1914.....	2,473	1,356	171	1,527
1915.....	1,448	789	136	925
1916.....	884	504	143	647
1917.....	493	397	165	562

Value and per cent of imports of tobacco from United States.

[Values in thousands of yen.]

Year.	Leaf.			All other.			Total tobacco from all countries, value.	From United States.	
	From all countries.	From United States.		From all countries.	From United States.			Value.	Per cent of total.
		Value.	Per cent of total.		Value.	Per cent of total.			
1913.....	895	869	97.09	349	168	48.14	1,244	1,037	83.36
1914.....	1,356	1,257	92.70	170	9	5.29	1,526	1,266	82.96
1915.....	789	726	92.01	137	6	4.38	925	732	79.05
1916.....	504	459	91.07	143	13	9.09	647	472	73.26
1917.....	397	329	82.87	166	13	7.83	562	342	60.74

Exports of tobacco, 1913-1917.

Year.	Leaf.		Cigarettes.		Other.	Total.
	Quantity (1,000 kin).	Value (1,000 yen).	Quantity (mille).	Value (1,000 yen).	Value (1,000 yen).	Value (1,000 yen).
1913.....	357	85	276,935	448	30	563
1914.....	189	61	139,871	251	14	326
1915.....	652	162	117,579	197	13	372
1916.....	1,702	282	187,223	381	14	677
1917.....	7,508	1,397	204,576	386	19	1,802

Value and per cent of exports of tobacco to China.

[Values in thousands of yen.]

Year.	Leaf.			Cigarettes.			Total tobacco.		
	To all coun- tries.	To China.		To all coun- tries.	To China.		To all coun- tries.	To China.	
		Value.	Per cent of total.		Value.	Per cent of total.		Value.	Per cent of total.
1913.....	85	80	94.12	448	303	67.63	563	393	69.93
1914.....	61	52	85.24	251	97	38.64	326	155	47.55
1915.....	162	68	41.97	197	129	65.48	372	199	53.49
1916.....	282	79	28.01	381	264	69.29	677	346	51.25
1917.....	1,397	209	14.96	386	187	48.44	1,802	399	22.14

The importation of tobacco into Japan, consisting mainly of leaf tobacco, has not been large. Before the war it amounted in value to only a little over 1,000,000 yen, and it fell in 1917 to less than one-half of its figure prior to the war, the imports in the latter year amounting to 563,000 yen as compared with 1,244,000 yen in 1913. In 1917 the United States furnished over 60 per cent of all the tobacco imported.

Prior to the war the Japanese exports consisted mainly of cigarettes, and only to a small extent of leaf and other tobacco. In 1917, however, leaf tobacco occupied first place, the exports of leaf tobacco in that year being about four times the value of the exports of cigarettes. Prior to 1917 China had always been Japan's best customer for both leaf tobacco and cigarettes. In 1917, however, the exports of leaf tobacco to the United States (2,542,630 kin, valued at 559,924 yen) and to Egypt (2,646,792 kin, valued at 504,382 yen) represented 40.09 per cent and 36.10 per cent, respectively.

A shortage in the world's supply of leaf tobacco for "Turkish" cigarettes has caused American makers of these cigarettes to turn to Japan for material to blend with other leaf for the manufacture of imitation "Turkish" or "Egyptian" cigarettes of the cheaper grades. This demand has grown to such an extent that in 1917, for the first time, the United States took a larger share of the Japanese exports of leaf tobacco than did any other country.

In the exports to China, the Japanese leaf tobacco comes into competition with the American product, the United States having supplied, in 1916, 62.5 per cent of all unmanufactured tobacco imported into China, while the Japanese cigarettes compete in China with those imported from Great Britain.

SKINS, HAIR, BONES, TEETH, TUSKS, SHELLS, AND MANUFACTURES THEREOF.¹

(Group IV of Imports and Group III of Exports.)

The imports of the articles in this group, as a whole, have always exceeded the exports, and the war has not brought about any change in this respect.

Trade in skins, hairs, bones, horns, teeth, tusks, shells, and manufactures thereof, 1913-1917.

[Values in thousands of yen.]

Year.	Imports.		Exports.	
	Value.	Per cent of total import trade.	Value.	Per cent of total export trade.
1913.....	8,968	1.23	4,178	0.66
1914.....	8,165	1.37	3,234	.54
1915.....	12,622	2.37	6,022	.85
1916.....	18,448	2.44	5,766	.51
1917.....	16,546	1.60	7,528	.47

Important items in the imports of this group are such raw materials as hides and skins, bristles, bones, ocean and fresh-water shells, and

¹ Except leather boots, which are classified under clothing.

such intermediate products as leather, all of which are utilized by Japanese industries for the manufacture of finished products for domestic consumption or for export. The imports have doubled in value since 1913. Many of the articles which are manufactured from materials included in Group IV of imports take their place, when worked up into finished products, in other groups in the export classification. Such is the case, for instance, for horn, bone, and pearl buttons; brushes of all kinds, made of bristles or with bone handles; and boots and shoes. The exports of articles included in Group III almost doubled in the period 1913 to 1917.

Hides and skins.—The most important item among the imports in the group is hides and skins. The figures of imports by totals and by countries are given in the following tables:

Imports of hides and skins, 1913–1917.

Year.	Bull, ox, cow, and buffalo.	Deer, red deer, waste, and other.	Total.
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
1913.....	2,187,386	354,426	2,541,812
1914.....	1,868,040	563,547	2,431,587
1915.....	5,906,800	488,968	6,395,768
1916.....	8,040,168	890,042	8,930,210
1917.....	3,773,698	2,067,712	5,841,410

Imports of hides and skins, by countries of origin, 1913–1917.

[Values in thousands of yen.]

Imported from—	1913	1914	1915	1916	1917
China.....	1,019	1,044	5,044	7,011	4,580
Kwantung.....	111	289	319	446	152
British India.....	8	13	22	168	169
Straits Settlements.....	16	33	119	177	64
United States.....	517	624	585	891	560
Australia.....	38	153	201	80	65
Other countries.....	833	276	108	157	251
Total value.....	2,542	2,432	6,398	8,930	5,841

In the period 1913–1917 the imports of hides and skins increased by over 100 per cent. China is the most important single source of the imports, her share in the trade having increased during the war. In 1913 China provided 25 per cent of the total imports, and in 1917, 78 per cent. China's exportable surplus of water buffalo and cow hides has increased about 25 per cent since 1914, and of her exports Japan takes an increasing proportion. Other important sources of the Japanese imports are British India, the United States, and the Straits Settlements.

Leather.—Lack of grazing lands makes it impossible for Japan to produce large quantities of hides and skins. Increased quantities of these raw materials have been imported to supply the growing Japanese leather industry. A great impetus was given to the industry by the substantial orders placed in Japan by the Russian Government for various leather products for military uses, such as boots, harness, and saddlery. The program of the Japanese manu-

facturers for the great increase of their industry is being aided by the attention which is now being paid in China and other Far Eastern countries to the collection of every available hide for export, and by the careful examination made, before presentation for sale, of the condition and quality of the hides for tanning purposes. New factories are being established in Japan and the old factories are being reorganized on modern lines. The figures of imports of leather and manufactures thereof for the years 1913 to 1917 are given in the following table:

Imports of leather and manufactures thereof, 1913-1917.

Year.	Leather.				Leather manufactures.		
	Sole leather.	Other sheep and goat leather.	All other leather.	Total leather.	Sweat-band leather for hats.	Other manufactures.	Total manufactures.
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
1913.....	802,514	743,073	898,701	2,444,288	147,022	75,477	222,499
1914.....	411,947	761,263	772,966	1,946,176	144,106	41,667	185,773
1915.....	434,521	884,130	589,030	1,907,681	74,973	23,014	97,987
1916.....	425,133	1,057,657	1,305,777	2,788,567	208,901	71,471	280,372
1917.....	183,747	866,143	1,112,267	2,162,157	292,513	87,586	380,099
Quantities in 1917.....	<i>Kin.</i> 153,444	<i>Kin.</i> 378,215	<i>Kin.</i> 402,756	<i>Kin.</i> 934,415	<i>Kin.</i> 33,753	<i>Kin.</i>	<i>Kin.</i>

Along with the increase in the domestic production of leather in Japan, the imports of leather and manufactures thereof—with the exception of sole leather—have also increased during the war period. There has been a great increase in the Japanese production of more highly manufactured leather products.

The imports of sole leather come almost exclusively from the United States, while British India supplies practically all the sheep and goat leather. Great Britain supplies most of the miscellaneous leathers, as well as the leather used in the manufacture of sweatbands for hats.

Bristles.—The imports of bristles into Japan increased about fivefold from 1913 to 1917, owing to the conspicuous development of the brush industry of Japan. Over 90 per cent of the imports of bristles come from China.

Imports of bristles, 1913-1917.

Year.	Pig or hog.		Other bristles.		Total.	
	Quantity (1,000 kin).	Value (1,000 yen).	Quantity (1,000 kin).	Value (1,000 yen).	Quantity (1,000 kin).	Value (1,000 yen).
1913.....	237	283	100	97	337	380
1914.....	251	373	135	114	386	487
1915.....	471	589	155	127	626	716
1916.....	939	1,448	356	440	1,295	1,888
1917.....	506	1,087	450	491	956	1,578

Bones.—The importation of bones for the manufacture of handles for toothbrushes and other purposes has likewise increased greatly, the imports having risen from 1,567,753 yen in 1913 to 2,893,774 yen in 1917. The imports come mainly from China, Australia, and the United States.

Shells.—The imports of shells of mollusca have more than doubled during the war period, owing to the great expansion in the Japanese pearl button industry. The imports of shells increased from 1,021,082 yen in 1913 to 2,528,585 yen in 1917. The shells come from Australia, the Straits Settlements, the Philippine Islands, and British India, in the order named.

Skins, hair, etc.—The most important items in the exports of articles in this group are leather and manufactures thereof and furs. The group also includes coral, catguts, and ivory.

Exports of skins, hair, horns, tusks, etc., and manufactures thereof, 1913-1917.

[Values in thousands of yen.]

Year.	Furs.	Leather.	Leather manufactures. ¹	All other skins, hair, etc., and manufactures of.	Total.
1913.....	563	958	76	2,581	4,178
1914.....	502	869	71	1,792	3,234
1915.....	121	772	78	5,051	6,022
1916.....	544	1,672	2,148	1,402	5,766
1917.....	801	3,891	1,301	1,535	7,528

¹ Does not include leather boots and shoes which are classed under "Clothing and accessories."

Great increases have occurred since 1913 in the exports of leather and leather manufactures, and these account for the increase of the total exports for the group during the period 1913 to 1917. The increases were the result of war orders placed in Japan, especially by Russia. In the figures for 1915 most of the exports of leather and manufactures thereof were classified, in the Japanese statistics, under "All other skins, etc." In normal times China is the most important market for Japan's leather and leather manufactures. The Japanese furs are chiefly sent to China, Great Britain, and the United States. The Japanese exports of coral, both worked and crude, go mainly to Italy and Hongkong. About 90 per cent of the catgut exports go to the United States.

OILS, FATS, WAXES, AND MANUFACTURES THEREOF.

(Group V of Imports and Group IV of Exports.)

The imports of Group V have shown a slight decrease since 1913, whereas the exports in 1917 were about three times as great as those in 1913. The exports, only about half the value of the imports in 1913, were in 1917 greater than the imports by more than 9,000,000 yen. The following tables show the values of the imports and exports of articles of these groups, and also the principal items which made up the imports, for the years 1913 to 1917.

Trade in oils, fats, waxes, and manufactures thereof, 1913-1917.

[Values in thousands of yen.]

Year.	Imports.		Exports.	
	Value.	Per cent of total import trade.	Value.	Per cent of total export trade.
1913.....	20, 211	2.77	9, 992	1.58
1914.....	17, 078	2.87	8, 398	1.42
1915.....	17, 276	3.24	10, 147	1.43
1916.....	17, 386	2.30	21, 658	1.92
1917.....	19, 458	1.88	28, 976	1.81

Imports of oils, fats, waxes, and manufactures thereof, 1913-1917.

[Values in thousands of yen.]

	1913	1914	1915	1916	1917
Volatile oils, vegetable, fragrant.....	947	719	985	1, 510	1, 357
Other vegetable oils.....	1, 021	749	880	744	824
Fats:					
Animal.....	1, 762	1, 466	1, 391	1, 510	3, 682
Other.....	262	236	196	241	340
Mineral oils.....	388	1, 035	1, 147	720	1, 082
Illuminating oils:					
Kerosene.....	11, 102	8, 657	8, 463	5, 571	5, 305
Other.....	710	386	461	699	585
Other oils.....	1, 184	1, 158	1, 041	1, 454	1, 396
Waxes.....	1, 805	1, 896	2, 079	3, 847	3, 793
All other oils, fats, waxes, manufactures of.....	1, 030	806	633	1, 090	1, 094
Total.....	20, 211	17, 078	17, 276	17, 386	19, 458

The imports of non-volatile vegetable oils and of illuminating oils showed substantial decreases, while the imports of most of the other items in the group showed moderate increases.

Kerosene.—The principal item among the imports in the group has always been kerosene oil (petroleum). In 1913 kerosene constituted 55 per cent of the total imports of oils, fats, and waxes; in 1917, 27 per cent. The kerosene oil industry has made marked progress in Japan during the war period. Until 1914 the domestic demand was supplied by 60 per cent of imported and 40 per cent of domestic oil. By 1917 the domestic oil supplied by far the larger proportion of the domestic consumption. The import of kerosene fell from 48,175,000 gallons in 1913 to 34,359,000 gallons in 1915 and to 19,427,000 gallons in 1917. There has also developed during the war period an export trade in kerosene and other mineral oils, which by 1917 had reached a total value of 3,144,000 yen. The increased production of petroleum in Japan was not the sole factor, however, in bringing about this situation. Other contributing factors were the progress made in Japan in the installation of electric lighting systems and the check on domestic consumption caused by the higher prices and the increased cost of transportation.

Imports of kerosene oil, 1913-1917.

Year.	Total.		From United States.		From Dutch East Indies.	
	Quantity (1,000 gallons).	Value (1,000 yen).	Quantity (1,000 gallons).	Value (1,000 yen).	Quantity (1,000 gallons).	Value (1,000 yen).
1913.....	48,175	11,102	33,146	7,577	15,029	3,526
1914.....	35,452	8,657	26,415	6,402	9,037	2,255
1915.....	34,360	8,464	27,184	6,695	7,176	1,769
1916.....	22,274	5,571	19,829	4,983	2,445	588
1917.....	19,427	5,305	17,944	4,904	1,483	401

Percentage which imports of kerosene oil from Dutch East Indies and United States constitute of total imports of kerosene, 1913-1917.

Imported from—	1913	1914	1915	1916	1917
Dutch East Indies.....	31.75	26.05	20.89	10.55	7.55
United States.....	68.25	73.95	79.11	89.45	92.45
Total.....	100.00	100.00	100.00	100.00	100.00
Total value in thousands of yen.....	11,102	8,657	8,464	5,571	5,305
Per cent imports of kerosene are of total import trade..	1.52	1.45	1.59	.74	.51

The above table gives the percentages (of value) of imports of kerosene by countries for the period 1913 to 1917. Prior to the war the Dutch East Indies were becoming serious competitors of the United States in the Japanese import trade in kerosene, but in the years 1916 and 1917 shipments from the Dutch East Indies almost ceased and nearly all the imported kerosene came from the United States.

Other Oils.—The imports of illuminating oils other than kerosene also come mainly from the United States. These have shown a slight increase during the war period.

The figures of imports of fragrant volatile vegetable oils, by countries, are given in the following table:

Imports of volatile oils, vegetable, fragrant, 1913 and 1917.

[Values in yen.]

Imported from—	1913	1917.
Germany.....	463,627	.....
France.....	224,693	517,574
Great Britain.....	151,137	347,927
United States.....	654	118,535
Other countries.....	106,493	372,980
Total.....	946,604	1,357,016

Before the war the most important single source of imports of volatile oils was Germany, which in 1913 supplied almost half the total Japanese imports. There were practically no imports from the United States. In 1917 there were, of course, no imports from Germany, but there were greatly increased imports from France, Great Britain, and other European countries, and in addition a very substantial import from the United States, amounting to over 8 per cent of the total imports.

Paraffin.—The imports of paraffin wax have grown considerably since 1913. From a total value in that year of 1,805,199 yen, the imports by 1917 were more than double, amounting to 3,791,662 yen. Of this amount 522,950 yen was wax whose melting point was below 45° C.

The figures of imports of paraffin wax by countries for the years 1913 and 1917 are given in the following table.

Imports of paraffin wax, 1913 and 1917.

Imported from—	Paraffin wax (melting point below 45° C.).		Paraffin wax (other).	
	1913	1917	1913	1917
	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>	<i>Yen.</i>
Great Britain.....	343,153	47,111	39,176	9,705
United States.....	411,908	353,800	317,907	592,868
British India.....	4,848	.....	362,153	1,384,860
Dutch East Indies.....	.....	122,039	66,415	1,277,425
Germany.....	21	.....	113,715	.....
Austria-Hungary.....	2,457	.....	131,872	.....
Other countries.....	4,885	.....	6,689	3,754
Total.....	767,272	522,950	1,037,927	3,268,612

Exports of oils, etc.—The figures of exports of articles in the group by classes is given in the following table for the years 1913 to 1917:

Exports of oils, fats, waxes, and manufactures thereof, 1913-1917.

[Values in thousands of yen.]

	1913	1914	1915	1916	1917	Per cent of increase or decrease (—), 1913-1917.
Oils:						
Coconut.....	.....	.....	.....	.....	7,117	.....
Soya-bean.....	197	237	256	921	1,248	533.50
Colza.....	1,343	1,464	2,896	3,765	3,993	197.32
Cottonseed.....	.....	.....	.....	.....	309	.....
Camphor oil.....	411	216	319	308	316	—23.11
Peppermint.....	1,018	809	697	845	594	—41.65
Fish and whale.....	3,484	2,657	2,236	3,385	3,626	4.08
Mineral oils—						
Kerosene.....	.....	.....	.....	.....	1,795	.....
Other.....	.....	147	349	2,896	1,349	.....
Vegetable wax.....	1,028	1,040	1,164	1,736	1,566	52.33
Soaps:						
Toilet.....	1,508	1,193	1,229	1,684	3,747	148.47
Washing.....	16	22	67	163	79	393.75
Toilet or perfumed waters and hair oil.....	519	363	341	756	996	91.91
All other oils, fats, waxes, and manufactures thereof.....	468	250	592	5,200	2,241	379.06
Total.....	9,992	8,398	10,147	21,658	28,976	189.99
Per cent exports of oil, fats, etc., are of total export trade.....	1.58	1.42	1.43	1.92	1.81	.....

The total exports of the items in the group increased from 9,992,000 yen in 1913 to 21,658,000 yen in 1916 and to 28,976,000 yen in 1917, an increase of 190 per cent, comparing 1917 with 1913. With the exception of camphor oil and peppermint oil, the exports of every item in the group increased. Camphor oil exports decreased from

410,776 yen in 1913 to 316,132 yen in 1917; and the exports of peppermint oil were reduced from 1,017,678 yen in 1913 to 593,614 yen in 1917, a decrease of 42 per cent. The decrease in exports of peppermint oil is undoubtedly the result of increased consumption in Japan, where the cultivation and production of peppermint has increased during the last few years.

Japan began the exporting of mineral oils in 1914. In 1914 the exports were valued at 147,287 yen; in 1917 they had increased to 3,143,617 yen, of which kerosene oil accounted for 1,794,917 yen, and other mineral oils for 1,348,598 yen. Of the kerosene oil 67 per cent (1,209,401 yen) was exported to China, and over 32 per cent (582,921 yen) went to Kwantung. Of the other mineral oils, 61 per cent (828,854 yen) was exported to Kwantung and practically all the remainder to China. The exports of mineral oil from Japan to China are in competition with the American product, which has heretofore constituted the largest part of the Chinese mineral oil imports.

Other oils exported from Japan in 1917 for the first time in its trade history are coconut oil, which appears in the 1917 exports to the value of 7,116,579 yen, and cottonseed oil, which was exported in that year to the value of 309,167 yen.

The exports of colza oil made from rape seed and of fish and whale oil are given by countries in the following tables:

Exports of colza oil, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917
Kwantung.....	44	46	91	138	169
Great Britain.....	654	1,055	1,979	1,184	919
France.....			229	138	62
United States.....	37	83	334	2,082	2,597
Australia.....	112	155	201	140	147
Other countries.....	496	125	62	83	99
Total value.....	1,343	1,464	2,896	3,765	3,993
Total quantity, in thousands of kin.....	8,818	9,854	19,522	22,103	14,758

Exports of fish oil and whale oil, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917
Asiatic Russia.....	4	4	2	122	17
Great Britain.....	840	531	1,644	1,210	1,307
France.....	152	37	233	298	152
United States.....	23	84	51	1,264	1,736
Australia.....	174	195	233	373	299
Belgium.....	924	954			
Germany.....	1,175	688			
Other countries.....	192	164	73	118	115
Total value.....	3,484	2,657	2,236	3,385	3,626
Total quantity, in thousands of kin.....	40,841	28,504	25,824	30,662	24,158

Before the war Great Britain was the chief market for colza oil, but since 1914 the shipments to the United States have increased greatly. In 1916 over 55 per cent, and in 1917 over 65 per cent of the total was sent to the United States.

Prior to the war Germany, Belgium, and Great Britain were the leading markets for fish oil and whale oil, and exports to the United States were unimportant. Only 24 per cent of the total exports then went to Great Britain. In 1916, on the other hand, the United States had become the most important single market; and in 1917, 48 per cent of the exports went to the United States and 36 per cent to Great Britain.

Formerly Japan exported fish oil and whale oil to Germany, Belgium, and Great Britain in crude form as raw material for the manufacture of glycerin and soaps. The sharp decline in exports resulting from the cessation of trade with Germany and Belgium, and the difficulty of export to Great Britain and the United States, owing to shortage of bottoms, led to a decline in prices. Experimentation in the refining of oils was immediately initiated, and as a result the present exports consist chiefly of refined oils. The needs of the domestic market for refined oils and their products are now met largely from the domestic production.

Drugs, Chemicals, Medicines, and Explosives.

(Group VI of Imports and Group V of Exports.)

This group has long held an important place in the import trade of Japan. The list of the articles imported differs from that of those exported in that the former does not include matches, which among the exports account for 50 per cent of the total value.

The total trade in these groups is shown in the following table:

Trade in drugs, chemicals, medicines, and explosives, 1913-1917.

Year.	Imports.		Exports. ¹	
	Value (1,000 yen).	Per cent of total im- port trade.	Value (1,000 yen).	Per cent of total ex- port trade.
1913.....	39,603	5.43	23,820	3.77
1914.....	37,373	6.27	24,118	4.08
1915.....	30,596	5.75	30,781	4.34
1916.....	55,430	7.33	56,821	5.04
1917.....	64,957	6.27	65,882	4.11

¹ Includes exports of matches.

Increase 1917 as compared with 1913, imports 64.02 per cent.

Increase 1917 as compared with 1913, exports 178.90 per cent.

IMPORTS.

Sulphate of ammonia.—In normal times, and as late as 1914, the principal import in the group was crude sulphate of ammonia, which in 1913 represented 44 per cent, and in 1914, 40 per cent of the total imports comprised therein. The following figures account for the imports of this commodity for the period 1913-1917.

Imports of sulphate of ammonia, crude, 1913-1917.

[Values in thousands of yen.]

Imported from—	1913	1914	1915	1916	1917
Kwantung.....	20	2	276	284	493
Great Britain.....	15,657	14,992	2,664	511	2,020
Australia.....	256	72	-----	234	272
Other countries.....	59	79	-----	170	78
Total.....	15,992	15,145	2,940	1,199	2,863
Total, quantity in thousands of piculs.....	1,859	1,761	332	119	252

The decrease in the importation of sulphate of ammonia, used extensively in Japan for fertilizing purposes, was undoubtedly the result of the embargo placed on this commodity by Great Britain. It has led to a larger importation by Japan of bean oil cake from China (14,000,000 piculs in 1913 and 18,000,000 in 1917). The production of ammonium sulphate in Japan amounted in 1916 to 36,089,722 pounds as against 1,818,658 pounds in 1913. Exports of ammonium sulphate are not shown separately.

India rubber and gutta percha.—India rubber and gutta percha in crude form constitute the second largest item in Group VI of imports into Japan in 1913; the imports amounted to 2,011,458 kin, valued at 3,451,842 yen. Of the 1913 imports, 50 per cent originated in the British Straits Settlements, 14 per cent in British India, 24 per cent in Great Britain, and about 6 per cent in the United States. By 1916 the imports had increased to 7,246,007 yen and in 1917 their value was 9,130,225 yen. Of the latter amount 68.84 per cent came from the Straits Settlements, and 21.65 from British India. The increase was due to the expanding rubber industry of Japan. The origin of the 1913-1917 imports was as follows:

Imports of india rubber and gutta percha, crude, 1913-1917.

[Value in thousands of yen.]

Imported from—	1913	1914	1915	1916	1917
Straits Settlements.....	1,771	1,357	1,727	4,968	6,285
British India.....	479	447	941	1,487	1,977
Dutch East Indies.....	18	3	226	165	89
Great Britain.....	818	319	394	480	534
United States.....	200	16	118	135	202
Other countries.....	166	5	26	11	43
Total.....	3,452	2,147	3,432	7,246	9,130
Total quantity in thousands of kin.....	2,011	1,730	2,928	4,974	6,296
Percentage supplied by Straits Settlements.....	51.30	63.20	50.35	68.56	68.84

Caustic soda.—In 1913 Japan produced over 9,000,000 pounds of caustic soda, or about one-fourth of her entire consumption. Since that time there has been a great increase both in production and in importation. In 1916 the home production was 16,000,000 pounds and the import over 21,000,000.

The production figures for 1917 are not available but the imports rose to about 48,000,000 pounds (36,195,000 kin). The increase in the production and import of caustic soda has been due to the development of various industries, mainly the manufacture of soap.

The imports for the years 1913–1917 were as follows:

Imports of caustic soda, 1913–1917.

Year.	1,000 kin.	1,000 yen.	Average value (yen).
1913.....	20,268	1,315	0.06
1914.....	23,049	1,416	.06
1915.....	18,087	1,256	.07
1916.....	15,906	2,939	.18
1917.....	36,195	6,409	.18

Formerly caustic soda was imported almost exclusively from Great Britain. Since the outbreak of the war, however, the import from the United States has increased, and the American product has largely replaced the British in Japan. The imports from the United States accounted in 1917 for 99.13 per cent of the total, but the United States Government has since restricted the export of this chemical and this action has given an impetus to the manufacture of caustic soda in Japan.

The 1917 figures of exports from Japan show—for the first time—exports of caustic soda, to the extent of 666,050 kin, valued at 133,278 yen. Of this amount 495,866 kin valued at 100,679 yen were exported to British India, and 110,088 kin valued at 20,700 yen to China. The manufacture of caustic soda in Japan has been assisted by the Government by means of a reduction in the selling price of salt, and consumers have been protected by prohibition of the exports except under license.

Soda ash.—From the following tables it appears that the United States now supplies the largest share of the Japanese imports of caustic soda and soda ash. The percentage for the two commodities from the United States amounted in 1917 to 84.05.

Imports of caustic soda by countries of origin, 1913–1917.

[Values in thousands of yen.]

Imported from—	1913	1914	1915	1916	1917
Great Britain.....	1,299	1,292	834	436	52
United States.....	14	117	373	2,489	6,353
Other countries.....	2	7	49	14	4
Total.....	1,315	1,416	1,256	2,939	6,409
Total quantity in thousands of kin.....	20,268	23,049	18,087	15,906	36,195
Per cent (in value) supplied by Great Britain.....	98.77	91.26	66.39	14.82	.81
Per cent (in value) supplied by United States.....	1.09	8.25	29.65	84.68	99.13

The demand for soda ash in Japan has greatly increased with the development of the glass industry, and arrangements are being made by the Japanese manufacturers to increase the domestic output.

Imports of soda ash have considerably increased since 1913, as shown by the following figures:

Imports of soda ash, 1913-1917.

[Values in thousands of yen.]

	1913	1914	1915	1916	1917
Kwantung.....		27	11	511	72
Great Britain.....	1,450	1,485	1,398	2,937	1,891
United States.....		45	54	71	4,887
Other countries.....				179	114
Total.....	1,450	1,557	1,463	3,598	6,964
Total quantity in thousands of kin.....	51,802	54,935	51,071	64,014	74,133
Per cent (in value) supplied by Great Britain.....	99.97	95.36	95.56	79.41	27.15

Nitrate of soda, crude.—Imports of nitrate of soda, of which over 90 per cent originate in Chile, also increased. The increase in import value, comparing the year 1917 with 1913, was 234 per cent. The increase in quantity is not in the same proportion owing to the rise in the price. The total imports and the share of Chile therein for the period of 1913-1917 were as follows:

Imports of nitrate of soda, 1913-1917.

Year.	Total imports.			Imports from Chile.	
	1,000 kin.	1,000 yen.	Average value.	1,000 yen.	Per cent of total imports.
1913.....	44,543	2,911	0.06	2,773	95.25
1914.....	40,709	2,624	.06	2,607	99.35
1915.....	50,352	3,239	.06	2,995	92.47
1916.....	76,702	6,185	.08	6,062	98.00
1917.....	91,810	9,725	.11	9,599	98.73

Summary of trade in chemicals, etc.—Various industries calling for chemical raw materials have been developing rapidly in Japan, accounting for the increase in imports of several of the items of the group. The leather industry calls for tanning materials. The coincident development of the leather industry in the United States has led during the past year to the imposition of restrictions on the exportation from the United States of various chemicals. Bichromate of potash is used in tanning, and shellac is used for stiffening leather. Shellac is also used in the making of telephones, phonographs, and varnish, all of which are now being manufactured in Japan. The soap industry calls for resin, borate of soda, and soda ash. Carbolic acid is in demand for the making of explosives. Nitrate of soda is used both as a fertilizer and in the manufacture of explosives. When German exports were cut off, the United States became the principal source of supply of carbolic acid, as well as of many of the other chemicals formerly imported into Japan from Germany.

Viewing the imports of chemicals and drugs as a whole, it will be seen that, beginning with 1915, there appears separately listed in the import schedule the following items of which previously no

separate mention was made: Other gums and gum resin; oxalic acid; alum; antifebrin. The imports of these articles are as yet small, the figures for 1917 being 198,480 yen; 50,468 yen; 25,435 yen; and 121,280 yen, respectively.

The following tables show the increases or decreases which have occurred in the various items included in the chemical and drug groups. The comparison is for the years 1913 and 1917.

Drugs, chemicals, medicines, and explosives which show an increase in imports in 1917 as compared with 1913.

	Imports (1,000 yen).			Principal country of origin.	
	1913	1917	Per cent increase, 1913-1917.	1913	1917
Hops.....	290	498	71.80	Germany.....	Russia.
Liquorice.....	90	261	189.00	China.....	China.
Tanning materials.....	113	508	350.11	United States.....	Cape Colony and Natal.
Tanning extracts.....	517	1,155	123.23	Dutch East Indies.	Straits Settlements.
India rubber, crude.....	3,452	9,130	164.50	Straits Settlements.	Do.
Gum, shellac.....	175	1,094	525.20	British India.....	British India.
Resin.....	968	1,987	105.34	United States.....	United States.
Gums, other.....	.....	198	.....	.....	Straits Settlements.
Boric acid.....	147	220	50.23	Germany.....	Great Britain.
Oxalic acid.....	.....	50	.....	.....	United States.
Tartaric acid.....	79	420	429.82	Great Britain.....	Great Britain.
Salicylic acid.....	148	196	132.83	Germany.....	United States.
Carbolic acid.....	251	4,749	1,788.50	do.....	Do.
Citric acid.....	43	125	192.28	Great Britain.....	Great Britain.
Caustic soda, crude.....	1,315	6,409	387.44	do.....	United States.
Soda ash.....	1,450	6,964	380.21	do.....	Do.
Bicarbonate of soda.....	298	307	13.15	do.....	Great Britain.
Nitrate of soda, crude.....	2,911	9,725	234.07	Chile.....	Chile.
Borate of soda.....	109	556	410.74	Great Britain.....	Great Britain.
Cyanide of soda.....	.....	324	.....	do.....	Do.
Cyanide of potash.....	329	371	12.68	do.....	Do.
Bichromate of potash.....	77	500	1545.00	United States.....	United States.
Alum.....	.....	25	.....	.....	China.
Chloride of ammonium.....	127	187	146.85	Great Britain.....	Great Britain.
Carbonate of ammonium.....	67	282	323.01	do.....	Do.
Antifebrin.....	.....	121	.....	do.....	United States.
Quinine.....	97	572	487.73	Dutch East Indies.	Dutch East Indies.
Morphine.....	487	5,078	942.05	Great Britain.....	Great Britain.
Cocaine.....	167	955	471.09	Germany.....	United States.
Alcoholic preparations.....	97	165	69.89	Great Britain.....	Great Britain.
Aromatic chemicals.....	50	53	5.86	Germany.....	Do.
All other chemicals.....	3,345	4,802	46.56	do.....	United States.
All other compounds.....	348	493	41.61	do.....	Do.
Dynamite.....	659	1,158	75.63	do.....	Do.

¹ Increase in value only, with decreases in quantity reported.

Drugs, chemicals, medicines, and explosives which show a decrease in imports in 1917 as compared with 1913.

	Imports (1,000 yen).			Principal country of origin.	
	1913	1917	Per cent decrease, 1913-1917.	1913	1917
Saffron.....	105	74	29.22	France.....	France.
Gum arabic.....	95	87	8.35	Germany.....	British India.
Glue.....	490	358	26.81	do.....	Great Britain.
Gelatine.....	61	57	6.42	do.....	Do.
Phosphorus, yellow.....	247	57	76.93	Great Britain.....	United States.
Phosphorus, red.....	400	247	38.37	France.....	Great Britain.
Peroxide of soda.....	137	62	55.15	do.....	Do.
Nitrate of potash.....	127	52	58.75	Germany.....	China.
Chlorate of potash.....	1,052	155	85.27	do.....	France.
Bromide of potash.....	68	15	77.22	do.....	United States.
Subnitrate of bismuth.....	112	48	57.40	do.....	Do.
Sulphate of ammonium.....	15,992	2,863	82.10	Great Britain.....	Great Britain.
Acetate of calcium.....	553	62	88.75	United States.....	United States.
Formalin.....	186	180	3.37	Germany.....	Do.
Alcohol.....	7	1	91.42	do.....	Do.
Glycerin.....	652	557	14.60	Great Britain.....	Great Britain.
Milk sugar.....	111	32	71.29	Germany.....	United States.
Antipyrin.....	140	91	35.25	do.....	France.
Santonin.....	160	103	35.25	do.....	Russia.
Carbonate of quaiacol.....	95	2	97.39	do.....	Switzerland.
Aniline salt.....	144	.....	99.99	do.....	Do.
Tooth powder.....	102	94	7.55	France.....	France.
Detonators.....	92	.....	99.99	Germany.....	.....
Explosives.....	95	24	74.90	do.....	Great Britain.

The decreases in most cases are to be accounted for by the shutting off of imports from Germany. In some cases they have been a consequence of the prohibitions placed by the Allies upon the exportation of materials needed for the making of war supplies. Yellow phosphorus, used in the making of matches, is also used in the making of bombs. The import has fallen off 76.93 per cent. In 1917 the United States was the chief source of supply. Peroxide of soda, which is secured chiefly from Great Britain, is used in the making of explosives. Great Britain has prohibited the exportation of sulphate of ammonia, and the United States has prohibited the export of acetate of calcium. Japan is developing her own supply of glycerin.

EXPORTS.

Matches.—In the figures for export trade of articles in this group there are included matches, which do not appear in the import group. The importance of the exports of matches is indicated by the figures in the following table:

Exports of drugs, chemicals, medicines, and explosives, including matches (Group V).

[Values in thousands of yen.]

Year.	Total group, value.	Matches.		Drugs, chemicals, medicines, and explosives.	
		Value.	Per cent of total group.	Value.	Per cent of total group.
1913.....	23,820	11,865	49.81	11,955	50.19
1914.....	24,118	11,052	45.83	13,066	54.17
1915.....	30,781	14,717	47.81	16,064	52.19
1916.....	56,821	21,103	37.14	35,718	62.86
1917.....	65,882	24,586	37.32	41,296	62.68

The figures show that while the export value of matches has more than doubled, that of drugs, chemicals, medicines, and explosives has nearly quadrupled since 1913.

The increase in the value of the matches exported during the period 1913-1917 was entirely due to price changes; the quantity exported remained practically the same. The cost of materials had increased greatly.

There has been a significant change in destination of the match exports. From the table which follows it can be seen that in normal times China, Kwantung, and Hongkong took about 70 per cent of all the Japanese matches exported, whereas, since the war began British India has become the principal purchaser, having taken in 1917 over 35 per cent. The United States is also rapidly becoming an important buyer, the share exported to this country having risen from 0.19 per cent in 1913 to 7.03 per cent of the total in 1917.

Exports of matches, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917
China.....	4,829	4,013	3,749	5,214	4,084
Kwantung.....	459	302	550	1,511	644
Hongkong.....	3,008	2,495	2,635	3,603	3,622
British India.....	1,974	2,896	5,494	5,792	8,691
Straits Settlements.....	845	615	703	1,037	1,447
Dutch East Indies.....	645	515	543	753	1,816
Asiatic Russia.....	10	7	10	1,135	1,318
Philippine Islands.....	46	72	91	152	300
Siam.....	4	—	18	125	10
United States.....	22	85	326	1,401	1,728
Australia.....	2	4	449	182	274
Other countries.....	21	48	149	198	652
Total.....	11,865	11,052	14,717	21,103	24,586

PER CENT DISTRIBUTION.

China.....	40.70	36.31	25.47	24.70	16.61
Kwantung.....	3.87	2.72	3.73	7.16	2.62
Hongkong.....	25.35	22.58	17.89	17.08	14.73
British India.....	16.64	26.20	37.33	27.45	35.35
Straits Settlements.....	7.12	5.57	4.78	4.91	5.89
Dutch East Indies.....	5.44	4.65	3.69	3.57	7.39
Asiatic Russia.....	.09	.06	.07	5.38	5.36
Philippine Islands.....	.39	.64	.62	.72	1.22
Siam.....	.03	—	.12	.59	.04
United States.....	.19	.75	2.21	6.64	7.03
Australia.....	.02	.03	3.06	.86	1.11
Other countries.....	.16	.49	1.03	.94	2.65
Total.....	100.00	100.00	100.00	100.00	100.00
Total quantity in thousands of gross.....	44,009	39,523	44,037	41,322	44,160
Average value per gross (boxes).....	.209	.279	.334	.511	.556
Per cent matches are of total Japanese export trade..	1.88	1.87	2.08	1.87	1.53

Menthol crystal.—Menthol crystal (a by-product of the peppermint plant grown in Japan) was in 1913 the most important item in Group V, other than matches, exported from Japan, amounting in value to 2,872,854 yen, which was nearly 25 per cent of the total value of all chemicals, drugs, and medicines exported. In 1913 Great Britain was the largest purchaser of menthol crystal, and the United States and France were next in the order of importance. In 1914 the United States occupied first place and it has held this place ever

since. The following table shows the distribution of the menthol exports by countries for the period of 1913-1917:

Exports of menthol, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917
British India.....	152	106	156	179	107
Great Britain.....	767	276	341	919	413
France.....	358	120	231	422	18
United States.....	479	625	936	812	930
Other countries.....	1,117	689	141	79	126
Total.....	2,873	1,816	1,805	2,411	1,594
Quantity in thousands of kin.....	233	269	325	386	251
Average value per kin.....	12.33	6.75	5.55	6.24	6.35
Per cent exported to United States.....	16.67	34.41	51.85	33.68	58.34

It will be observed that Japan's exports of menthol crystal have increased in quantity but decreased in value. With the exception of this item, the exports of every commodity in the chemicals, drugs, and medicines group have increased both in quantity and in value.

Camphor.—Camphor is by far the most important item of the subsidiary forest products in Japan and it occupies a unique position in world trade. The world's consumption of camphor amounts to about 9,000,000 kin per annum, of which about one-half is supplied by Formosa and the other half by Japan proper and southern China. Camphor is used for the manufacture of celluloid and is in demand for insecticides, antiseptics, drugs, and—in India—for incense making. In Japan the production and sale of camphor is a State monopoly. The output of refined camphor in Japan proper during the fiscal year 1915-16 amounted to 4,372,000 kin, valued at 3,871,000 yen. The export of camphor from Japan since 1913, by countries of destination, has been as follows:

Exports of camphor, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917
British India.....	831	825	1,255	1,560	1,956
United States.....	434	696	890	3,125	2,440
Australia.....	102	104	156	89	191
Great Britain.....	138	333	284	594	241
Germany.....	427	261			
All other.....	304	561	890	920	476
Total.....	2,236	2,780	3,475	6,288	5,304
Total quantity in thousands of kin.....	2,478	3,074	3,880	5,754	3,120
Average value per kin.....	0.90	0.90	0.90	1.09	1.70
Per cent exported to United States.....	19.41	25.04	25.61	49.69	46.00

There has been a slight increase in the quantity of camphor exported to India, and the quantity exported to the United States has about trebled. The quantities exported to other countries have declined. There has, however, been an increase in the value of camphor exported to each country, amounting in the case of the

United States to nearly six times as much as the value of the 1913 exports. The Japanese Government raised the price repeatedly during 1916 and 1917 as the demand increased.

Sulphur.—Japan being a volcanic country is naturally rich in sulphur deposits, which occur chiefly in the solfatara type. Only high-grade deposits, i. e., those containing as much as 40 per cent sulphur, are generally worked. The deposits are to be found chiefly at the northern corner of Formosa, in the Japan Sea districts in northern Japan, and in the eastern part of Hokkaido. Japan's production of sulphur in 1915 amounted to 200,000,000 kin. After supplying the needs of the domestic match industry there was available a large surplus for export, as shown by the following figures.

Exports of sulphur, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917
British India.....	46	36	177	283	1,092
Dutch East Indies.....	12	99	26	142	632
Asiatic Russia.....	1	11	182	2,725	319
United States.....	847	735	967	1,200	83
Canada.....	81	67	168	260	72
Australia.....	856	776	869	1,255	3,028
New Zealand.....				100	163
Other countries.....	138	122	99	251	754
Total.....	1,981	1,846	2,488	6,216	6,143
Total quantity in thousands of kin.....	90,427	85,947	124,790	137,812	142,410
Average value per kin.....	0.02	0.02	0.02	0.05	0.04

There has been a marked increase in the exports to British India, Australia, Dutch East Indies, and Asiatic Russia, these countries having taken nearly the total of the 1917 exports. The United States imported in 1917 a negligible quantity of Japanese sulphur.

Other chemicals, drugs, and medicines.—Chemicals, drugs, and medicines other than menthol crystal, camphor, and sulphur, which appeared among the exports from Japan prior to the war were the following:

Exports of miscellaneous chemicals, drugs, and medicines.

	1913	1917	Per cent of increase, or decrease (-), 1913-1917.
	Yen.	Yen.	
Ginseng.....	405,308	608,412	50.11
Dried plants for insectifuge.....	114,820	1,116,060	872.01
Io line.....	130,484	331,479	154.03
Sulphuric acid.....	106,014	503,594	375.03
Iodid. of potash.....	323,947	1,039,689	220.94
Bleaching powder.....	135,641	1,485,709	995.32
Menthol, cane.....	104,575	169,593	62.17
Insect powder.....	81,041	338,171	317.29
Tooth powder and paste.....	239,531	427,424	78.44
Toilet powder.....	117,926	284,365	141.14
Other prepared perfumeries.....	212,104	279,245	31.65
Prepared medicines.....	1,662,893	1,605,869	-3.43
All other drugs, chemicals, and medicines.....	829,672	9,230,518	1,012.55

China, Kwantung, British India, Dutch East Indies, and the Straits Settlements are the principal markets for miscellaneous chemicals. Russia has taken considerable quantities of sulphuric acid and iodide of potash, and the Japanese exports of dried plants for insectifuge, iodine, and iodide of potash have gone, to a large extent, to the United States, Great Britain, and France.

The development of the chemical industry in Japan since the war has enabled Japan to export certain products which prior to 1917 were either not exported or were exported in amounts not large enough to be given special mention in the Japanese statistics. The following list shows the new items exported in 1917 and the amount exported to the principal country of destination.

New items in the group "drugs, chemicals, medicines, and explosives," which in 1917 appear for the first time in the Japanese exports.

	Total exports.	Principal country of destination.	
	Yen.	Country.	Yen.
Kaki extract and other tanning extracts	527, 105	Russia, Asiatic....	437, 852
Compressed oxygen.....	56, 584	Kwantung.....	55, 080
Zinc dust.....	550, 782	Great Britain.....	255, 886
Acetic acid.....	3, 513, 019	Straits Settlements.....	2, 230, 710
Copper sulphate.....	785, 724	Australia.....	343, 056
Caustic soda.....	133, 278	British India.....	100, 679
Chlorate of potash.....	2, 384, 073	United States.....	1, 141, 087
Calcium carbide.....	853, 852	Australia.....	459, 346
Naphthalene.....	393, 611	China.....	146, 715
Gauze wadding and bandages.....	1, 010, 611	Russia, Asiatic....	678, 556
Explosives.....	626, 062	do.....	363, 925

Among these new items of export acetic acid is conspicuous. Before the war substantial quantities of acetic acid were imported from abroad, especially from Holland and Germany, but subsequently the industry has made great headway. In 1915 the domestic production was 4,280,000 pounds, valued at 1,230,000 yen, which satisfied the domestic demand. For 1917 no imports appear, but the exports amounted to 4,257,737 kin, valued at 3,513,019 yen.

Chlorate of potash is another item the imports of which before the outbreak of the war exceeded the exports, whereas subsequently the contrary has been the case. The 1917 exports amounted to 2,582,209 kin, valued at 2,384,073 yen. Of this amount, 1,222,611 kin valued at 1,141,087 yen were exported to the United States.

DYES, PIGMENTS, COATINGS, AND FILLING MATTERS.

(Group VII of Imports and Group VI of Exports.)

This group of articles represents commodities which have long been imported but in which there was no export trade prior to the war. Prior to 1915 there was in the export statistics of Japan no separate group comprising the above commodities. They were not imported or exported in considerable quantities, and were included in the general item, "all other chemicals, drugs, dyes, etc.," of the chemical groups. For purposes of comparison, however, the figures for the dyes, pigments, etc., included prior to 1915 in "all other chemicals, drugs, dyes, etc.," are obtainable by making subtrac-

tions, and they may be listed in Group VI of the export trade. The following figures show the Japanese trade in dyes, etc., for the period 1913-1917.

Trade in dyes, pigments, coatings, and filling matters, 1913-1917.

Year.	Imports.		Exports.	
	Value (1,000 yen).	Per cent of total im- port trade.	Value (1,000 yen).	Per cent of total ex- port trade.
1913.....	11,343	1.56	497	0.08
1914.....	8,081	1.36	475	.08
1915.....	7,373	1.38	2,044	.29
1916.....	8,482	1.12	5,583	.50
1917.....	9,300	.90	6,534	.41

Decrease in imports 1917 compared with 1913, 18 per cent. Increase in exports 1917 compared with 1913, 1,214 per cent.

IMPORTS.

Coal-tar dyes.—The principal items in the import trade of this group have been coal-tar dyes, consisting of artificial indigo, dry artificial aniline dyes, and other coal-tar dyes, of which Germany supplied in normal times about 90 per cent. Even during the war the largest share has been entered as imported from Germany, which can be accounted for largely by withdrawals from German stocks deposited in Japanese warehouses prior to the war. Some dyes which had left Germany prior to the outbreak of the war were also imported into Japan under special license. The following table shows the imports of coal-tar dyes for the period 1913-1917, by countries of origin:

Imports of coal-tar dyes, 1913-1917.

[Values in thousands of yen.]

Imported from—	1913	1914	1915	1916	1917
Germany.....	6,996	4,544	2,382	2,789	1,898
Switzerland.....	561	457	93	220	605
Other countries.....	201	171	456	429	2,044
Total.....	7,758	5,172	2,931	3,438	4,547

PER CENT DISTRIBUTION.

Germany.....	90.18	87.42	81.27	81.13	41.74
Switzerland.....	7.23	8.80	3.17	6.39	13.34
Other countries.....	2.59	3.78	15.56	12.48	44.92
Total.....	100.00	100.00	100.00	100.00	100.00
Total quantity in thousands of kin.....	9,175	6,174	1,463	541	642
Average value per kin.....	0.85	0.84	2.00	6.35	7.08
Per cent imports of coal-tar dyes are of total import trade.....	1.07	.87	.54	.45	.44

Among the other items in the import group of dyes, pigments, coatings, and filling matters the following show increases or decreases, when comparing the year 1917 with 1913:

Increases.

	Value (1,000 yen).		Per cent increase, 1913-1917.	Principal country of origin.	
	1913	1917		1913	1917
Indigo, dry, natural.....	35	282	705.71	British India.....	British India.
Logwood extract.....	135	1,103	717.04	France.....	United States.
Oxide of cobalt.....	66	282	327.27	Great Britain.....	Great Britain.
White zinc.....	10	10	.....	Do.	Do.
Carbon black.....	87	177	210.53	United States.....	United States.
Lacquer.....	670	933	39.25	China.....	China.
Varnish.....	223	314	40.81	Great Britain.....	United States.
Pitch and asphalt.....	69	117	98.31	United States.....	Do.
Ink for printing.....	116	130	12.07	do.....	Do.
Other inks.....	22	22	.....	Do.	Do.
Ships' bottom paints.....	154	188	22.08	Great Britain.....	Great Britain.
All other dyes and pigments..	521	537	3.07	Germany.....	Do.

The natural indigo was imported as a substitute for the German artificial indigo. It will be noted that the United States has become the principal exporter to Japan of logwood extract, the American product supplanting the French.

Decreases.

	Value (1,000 yen).		Per cent decrease, 1913-1917.	Principal country of origin.	
	1913.	1917.		1913.	1917.
Liquid gold, liquid silver.....	276	143	48.19	Germany.....	United States.
Ultramarine blue.....	55	54	1.82	do.....	Do.
White lead, red lead.....	16	5	68.75	Great Britain.....	Do.
Shoe polishes.....	63	53	15.87	do.....	Great Britain.
Pencils cased with wood or paper.....	366	89	75.62	Germany.....	United States.
Ink for copying or writing.....	46	.....	.....	Great Britain.....	.....
Artists' colors and artists' paints.....	67	.....	.....	do.	.....
Other paints.....	291	143	50.86	do.....	Great Britain.
All other coatings and filling matters.....	183	169	7.65	do.....	United States.

EXPORTS.

As stated above, prior to 1915 Group VI of exports did not exist. A few of the items now included therein, such as inks, paints, and dyes, were exported prior to that year. They averaged less than 500,000 yen annually in total value and were included in Group V of exports—"Chemicals, drugs, dyes, etc." However, with the growth of the manufacture of pencils, inks, paints, and coatings in Japan, an export trade was developed which increased from 497,000 yen in 1913 to 6,534,000 yen in 1917. The largest single item among these exports was pencils, which accounted for nearly 53 per cent of the total.

Prior to 1917 only four items were comprised in Group VI of exports—pencils, inks, paints, and all other dyes, pigments, coatings and filling matters. The export trade in these articles was limited to Far Eastern countries. China, Hongkong, British India, and the Dutch East Indies were the principal purchasing countries. In 1917, however, the new classification of the group showed eight items, as follows:

Exports of dyes, pigments, coatings, and filling matters, 1913 and 1917.

	1913		1917	
	Kin.	Yen.	Kin.	Yen.
Metal powder			630,784	793,119
Red lead			1,432,665	448,477
Coal tar and pitch			20,471,824	634,882
Shoe polishes			282,586	160,944
Pencils (gross)			1,817,413	2,104,096
Inks	384,813	123,564	822,971	456,579
Paints	358,874	70,643	1,830,137	504,783
All other dyes, etc.		303,026		1,431,136
Total group		497,233		6,534,016

Increase 1917 as compared with 1913, 1,214.07 per cent.

The increase in the exports of paints, and the decrease in the imports is indicative of the expansion of the Japanese paint industry. Practically every sort of paint is now produced with the exception of paint for ships' bottoms, and varnishes.

In normal times Japan imported annually about 365,000 yen worth of pencils, of which over 80 per cent were of German origin. By 1915 this importation had dwindled to less than 15,000 yen, and the figures for 1917 were 89,000 yen. Beginning with 1914 Japan has built up an export trade in pencils which has risen from an exportation of 48,000 yen in 1914 to 2,104,000 yen in 1917.

TEXTILES.

In the Japanese statistics the imports and exports of textile materials and products are grouped and entered as follows:

Yarns, threads, twines, cordages, and materials thereof (Group VIII of Imports and VII of Exports), comprising mostly raw materials and semi-manufactured products.

Tissues and manufactures thereof (Group IX of Imports and VIII of Exports), consisting chiefly of piece goods.

Clothing and accessories (Group X of Imports and IX of Exports). This group is not confined strictly to textile products; it includes also shoes and accessory articles, such as buttons.

The Japanese classification will be observed in the three sections which follow, by using the sectional titles:

Yarns, threads, twines, cordages, and materials thereof.

Tissues and manufactures thereof.

Clothing and accessories.

In an analysis of the Japanese trade in textile materials and products, 1913-1917, there appears significant evidence of the industrial progress of Japan during the war. Japan produces only one textile material in large quantities, viz, raw silk. Notwithstanding increased utilization of raw silk in domestic mills, indicated by the increased export of silk fabrics and yarns, the export of raw silk has increased in quantity and almost doubled in value. The export was, in 1913, in value 189,000,000 yen; it had increased in 1917 to 355,000,000 yen, an increase of 88 per cent over 1913. However, the rise in price must be taken into consideration. The quantity exported in 1913 was

20,229,000 kin; that in 1917 was 25,829,000. The actual increase in the quantity of raw silk exported amounted, therefore, to 27.68 per cent.

For the supplies of the other important textile materials, raw cotton, wool, and hemp, Japan is almost entirely dependent on outside sources. During the war the manufacture and exportation of cotton and woollen fabrics, knit goods, and hemp braids, has greatly increased. The natural results are shown in increased imports of raw cotton, wool, and manila hemp. At the same time, the decreasing dependence of the Japanese consumers on foreign manufactures is evidenced by the diminishing imports of cotton and woollen cloths and clothing.

YARNS, THREADS, TWINES, CORDAGE, AND MATERIALS THEREOF.

(Group VIII of Imports and Group VII of Exports.)

The importance of textile raw materials and semi-manufactured products in the trade of Japan is shown by the following table:

Trade in yarns, threads, twines, cordages, and materials thereof, 1913-1917.

Year.	Imports.		Exports.	
	Value (1,000 yen).	Per cent of total import trade.	Value (1,000 yen).	Per cent of total export trade.
1913	271,416	37.21	276,520	43.73
1914	250,285	42.01	250,963	42.45
1915	262,750	49.35	231,734	32.72
1916	326,660	43.18	369,347	32.76
1917	410,867	39.67	501,851	31.31

Increase in imports 1917 over 1913, 88.97 per cent.

Increase in exports 1917 over 1913, 81.49 per cent.

IMPORTS.

MATERIALS FOR THE TEXTILE INDUSTRY—RAW AND SEMI-MANUFACTURED.

(Group VIII. Yarns, Threads, etc.)

Raw cotton.—The imports of raw cotton (in the seed and ginned) overshadow all other items in this group, and form the most important item in the total import trade of Japan. They amounted in 1917 to 32 per cent in value of all imports. A small amount of cotton in the seed is imported each year from French Indo-China, the Dutch East Indies, and from Siam and China. The seed of the cotton ginned in Japan is used in local oil mills.

The sources of imports into Japan of ginned and unginned cotton during the calendar years 1913-1917 were, according to Japanese import statistics, as follows:

Imports of cotton in the seed and ginned cotton, 1913-1917.

[Values in thousands of yen.]

Imported from—	1913	1914	1915	1916	1917
China.....	16,505	11,750	15,337	19,678	30,596
British India.....	143,039	145,448	139,705	165,189	204,311
Straits Settlements.....	601	.....	113	570	255
Dutch East Indies.....	606	207	125	1,050	218
French Indo-China.....	1,904	1,599	497	1,741	629
Siam.....	35	72	84	197	4
United States.....	64,220	53,966	55,654	79,370	84,085
Egypt.....	6,236	5,724	5,802	8,257	10,848
Other countries.....	453	209	.....	37	30
Total.....	233,599	218,975	217,316	276,089	330,976

PER CENT DISTRIBUTION.

China.....	7.07	5.37	7.06	7.13	9.24
British India.....	61.23	66.42	64.29	59.83	61.73
United States.....	27.49	24.64	25.61	28.75	25.41
Other countries.....	4.21	3.57	3.04	4.29	3.62
Total quantity in thousands of piculs.....	6,702	6,203	7,292	8,363	7,048
Average value per picul.....	34.85	35.30	29.80	33.01	46.96
Per cent cotton is (in value) of total import trade.....	32.02	36.74	40.81	36.49	31.95

Japan's imports of raw cotton have grown from 14,612 piculs in 1880 to 7,048,000 piculs in 1917. The maximum imports were recorded in 1916, 8,363,000 piculs, an amount equal to 2,230,078 bales of 500 pounds each.

The first purchase of American cotton consisted of a sample bale of 549 pounds imported in 1886. Since that date the imports of American cotton have increased steadily; occasional fluctuations are explained by the relative prices of American and Indian cotton. Very little cotton is now grown in Japan. The maximum production reported was in 1887, 185,100,000 pounds; the production in 1916, the latest date for which statistics are available, amounted to only 6,936,300 pounds. The striking decrease in the last 40 years is the result of the greater profits obtainable from the use of the arable land for the production of other crops, especially rice. Both the imported and the domestic cotton are worked up in Japanese mills into cotton yarn and cloths. In the fourteen years, 1899-1912, the raw cotton imports increased annually by about 683,000 piculs; in the years 1914 to 1917 the average annual increase was only 520,000 piculs.

The chief sources of the cotton imported into Japan remained in 1917 the same as in 1913, as is shown by the preceding table. With the exception of comparatively small shipments to Hongkong, the bulk of the Chinese cotton export goes to Japan. The Chinese cotton is of the short-staple variety; that received by Japan from the United States, on the other hand, has a longer fiber and is of finer quality. The tendency of the Japanese cotton manufacturers to produce finer counts of yarn as well as higher grades of cotton piece goods may point to an increasing reliance upon the importation of American cotton in the future.

The Japanese have been experimenting with a seaweed called "sugamo," as a substitute for raw cotton, but there are no indications that it will prove important in the near future.

Wool.—The Japanese woolen industry is dependent on foreign sources for its raw material to an even greater extent than is the cotton industry. The number of sheep in Japan at present is less than 4,000 and sheep raising is impeded by the absence of suitable fodder. Prior to 1914, the wool used in Japanese factories came principally from Australia and Great Britain, in about equal proportions. In the first two years of the war the supplies from Great Britain were curtailed, whereas the imports from Australia and China increased. In 1916, Australia supplied 92 per cent of all the wool imported. The imports from China fell off in 1916 and 1917 owing to unfavorable rates of exchange.

In 1917 a remarkable change took place in the sources from which Japan secured her wool. The export of wool from Australia was restricted and the Japanese imports from that country, which had amounted in 1916 to 30,049,000 kin, fell in 1917 to 10,386,000 kin. The imports from China and Great Britain also decreased considerably. Yet the total imports of wool for 1917 showed a gain, not only in value but also in quantity, over those of 1916. From the 1917 trade returns of Japan, it appears that the bulk of the 1917 wool imports has been supplied by South Africa and South America.

The quantities and values of wool imports since 1913, by countries of origin, have been as follows:

Imports of wool, 1913-1917.

[Values in thousands of yen.]

Imported from—	1913	1914	1915	1916	1917
China.....	320	1,330	4,554	1,932	1,195
Asiatic Russia.....			583		
Great Britain.....	7,279	5,135	1,391	561	455
Australia.....	7,995	8,121	23,979	30,877	17,695
Cape Colony and Natal.....				6	18,614
Other African countries.....				2	9,823
South American countries.....			1		4,169
Other countries.....	404	198	76	69	161
Total.....	15,998	14,784	30,584	33,507	52,112

PER CENT DISTRIBUTION.

China.....	2.00	8.99	14.89	5.95	2.29
Asiatic Russia.....			1.91		
Great Britain.....	45.50	34.74	4.55	1.67	.87
Australia.....	49.98	54.93	78.40	92.15	33.95
Cape Colony and Natal.....				.02	35.72
Other African countries.....				.01	18.85
South American countries.....					8.00
Other countries.....	2.52	1.34	.25	.20	.32
Total.....	100.00	100.00	100.00	100.00	100.00
Total quantity in thousands of kin.....	15,795	15,624	43,288	35,136	39,628
Average value per kin.....	1.01	0.94	0.71	0.95	1.32

The decreased share of Australian wool in the total imports in 1917 and of wool from Great Britain after 1913 is shown in the above table.

The reasons for the increased importation of raw wool were the increased demands for Japanese woolen yarns and fabrics from other Far Eastern countries, which had before the war depended principally upon supplies from Great Britain, from other European countries, and from the United States. Additional raw wool supplies were also necessary to fill the large orders received in 1915 from the Russian Government for woolen cloth. A significant change has taken place in the quality of wool imported into Japan. Before the war the imports were chiefly wool tops; since 1915 the imports of wool other than tops have become by far the more important.

MISCELLANEOUS RAW MATERIALS.

Flax, jute, manila hemp, China grass, ramie, etc.—The imports of these products for the years 1913–1917 are shown in the following table:

Imports of flax, jute, manila hemp, China grass, ramie, etc., 1913–1917.

[Values in thousands of yen.]

Imported from—	1913	1914	1915	1916	1917
China.....	2,243	2,000	2,128	3,421	4,532
British India.....	1,153	832	1,280	855	1,223
Philippine Islands.....	3,770	5,093	4,999	4,814	12,194
Other countries.....	190	14	16	34	484
Total.....	7,356	7,939	8,423	9,124	18,433
Total quantity in thousands of kin.....	31,069	30,951	37,549	44,338	64,742
Average value per kin.....	0.24	0.26	0.22	0.21	0.28

The most important items are hemp, jute, and manila hemp, as is shown by the following table:

Year.	Flax, China grass, and ramie.		Hemp, jute, and manila hemp.	
	1,000 kin.	1,000 yen.	1,000 kin.	1,000 yen.
1913.....	5,295	898	25,774	6,458
1914.....	4,618	777	26,334	7,162
1915.....	4,187	652	33,361	7,771
1916.....	6,213	907	38,126	8,156
1917.....	10,339	1,711	54,404	16,722

Manila hemp originates in the Philippine Islands; jute, in British India; flax, China grass, and ramie are imported from China. Ramie is a very durable fiber yielded by a shrub of the nettle family. It is used as a raw material in the manufacture of cordage, paper, and textile fabrics. Extensive experiments are now being made in the growing of flax in Japan.

The important and increasing share of Philippine hemp in the trade in this group is shown in the following table:

Percentage of imports of flax, hemp, China grass, ramie, etc., from specified countries, 1913-1917.

Imported from—	1913	1914	1915	1916	1917
China.....	30.50	25.19	25.26	37.50	24.69
British India.....	15.67	10.48	15.20	9.37	6.63
Philippine Islands.....	51.24	64.16	59.35	52.76	66.15
Other countries.....	2.59	.17	.19	.37	2.63
Total.....	100.00	100.00	100.00	100.00	100.00

The manufactured products for which flax, hemp, jute, etc., are the raw materials are mainly for domestic consumption. They include cordage, fish nets, sacks, etc. In hemp braid, however, an important export trade has recently been built up. Exports of hemp braid averaged in the years 1913-1917 about 12,000,000 yen annually, of which one-half has gone to the United States and one-third to Great Britain.¹

Cocoons and wild silk are imported principally (90 per cent) from China. The quantity of the former annually imported has decreased since 1913, but the value of the imports has increased.

Imports of cocoons and wild silk, 1913-1917.

Year.	Cocoons.		Wild silk.	
	1,000 kin.	1,000 yen.	1,000 kin.	1,000 yen.
1913.....	1,610	953	277	847
1914.....	901	683	499	1,544
1915.....	1,775	1,845	829	2,333
1916.....	1,350	1,371	757	2,313
1917.....	1,268	1,369	568	2,571

Résumé of imports of textile raw materials and semi-manufactures.—The imports of all the items in this group (Group VII of Imports) increased in value from 271,000,000 yen in 1913 to 411,000,000 yen in 1917, a gain of 52 per cent. Raw materials such as cotton, wool, hemp, and miscellaneous fibers account for the greater part of the increase in the group. Imports of worsted yarns decreased from 10,059,000 yen in 1913 to 769,000 yen in 1917; and linen yarns decreased from 202,000 yen in 1913 to 9,000 yen in 1917.

EXPORTS.

Raw silk.—The principal export commodity, not only in this group but in the whole trade of Japan, is raw silk. The importance of raw silk in the trade has decreased relatively to that of manufactured goods, during the war, the volume of the exports of the latter having increased enormously.

¹ Fuller statistics on hemp braid exports will be found in the section on miscellaneous exports.

Raw silk exports in relation to total Group VII and total export trade of Japan, 1913-1917.

[Values in thousands of yen.]

Year.	Total Japanese export trade.	Total export (Group VII, yarns, threads, twines, cordages, and materials thereof).	Per cent of Group VII in total exports.	Exports of raw silk included in Group VII.	Per cent of raw silk in exports of Group VII.	Per cent of raw silk in total Japanese exports.
1913.....	632,460	276,520	43.73	188,917	68.32	29.87
1914.....	591,101	250,963	42.45	161,797	64.47	27.37
1915.....	708,307	231,734	32.72	152,031	65.61	21.36
1916.....	1,127,468	369,347	32.76	267,037	72.30	23.63
1917.....	1,603,005	501,851	31.31	355,155	70.77	22.16

The raw silk exports from Japan comprise the following items: filatures, steam, up to 12 denier; filatures, steam, over 12 denier; filatures, hand; dupion and "other." Of these steam filatures, over 12 denier, are the most important and represent more than 90 per cent of all the raw silk exported. The following table shows the distribution by countries of the raw silk exports from Japan for the period 1913-1917:

Exports of raw silk, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917
British India.....	68	440	26	165	136
Great Britain.....	675	926	805	2,020	7,243
France.....	32,129	15,468	20,401	31,686	35,074
Italy.....	24,811	8,466	211	—	1,176
Russia.....	4,415	1,459	3,172	8,892	4,561
United States.....	125,909	134,800	127,349	224,093	306,170
Other countries.....	910	238	67	181	795
Total.....	188,917	161,797	152,031	267,037	355,155

PER CENT DISTRIBUTION.

France.....	17.01	9.56	13.42	11.86	9.88
Italy.....	13.13	5.23	.14	—	.33
United States.....	66.65	83.31	83.77	83.92	86.21
Other countries.....	3.21	1.90	2.67	4.22	3.58
Total.....	100.00	100.00	100.00	100.00	100.00
Total quantity in thousands of kin.....	20,229	17,149	17,814	21,742	25,829
Average value per kin.....	9.34	9.43	8.53	12.28	13.75

Increase in quantity, 1917, compared with 1913, 27.68 per cent.

Increase in value, 1917, compared with 1913, 87.99 per cent.

Increase in unit value, 1917, compared with 1913, 47.22 per cent.

The bulk of the higher grades of raw silk is sent to the United States. The Japanese retain for home consumption chiefly the lower grades, although recent changes in labor conditions and in the quality of Japanese fabrics demanded by the home and the export markets, respectively, have led to an increasing domestic consumption of the better grades. After the United States, which in 1917 took almost nine-tenths of all the raw silk exported, France and Italy are the

only other buyers of importance. In normal times Switzerland and Russia buy small amounts. Figures available for the first five months of 1918¹ show a decided decline in exports of raw silk, from 134,362,000 yen for January 1–May 31, 1917 to 123,369,000 yen for the corresponding period of 1918.

There are no accurate figures for the total raw silk production of the world. It is generally assumed that Japan is not only the largest exporter, but the largest producer of this commodity. In the absence of reliable figures as to the Chinese production and domestic consumption, the assumption is without statistical basis.

Waste silk.—Japan is also the chief exporter of waste silk. An increasing amount of waste silk is each year being manufactured into spun silk yarn in Japanese factories, but a large proportion of the total waste silk is still exported as such, principally to the United States and France.

Exports of waste silk, 1913–1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917
Great Britain.....	486	243	683	361	1,313
France.....	6,618	2,822	2,619	5,402	7,993
Italy.....	2,101	916	1,103	2,075	2,359
United States.....	1,003	587	1,477	2,572	4,667
Other countries.....	263	105	70	70	217
Total value.....	10,471	4,673	5,952	10,480	16,549

PER CENT DISTRIBUTION.

Great Britain.....	4.64	5.21	11.48	3.44	7.93
France.....	63.20	60.39	44.01	51.54	48.29
Italy.....	20.07	19.60	18.53	19.80	14.26
United States.....	9.58	12.56	24.81	24.54	28.20
Other countries.....	2.51	2.24	1.17	.68	1.32
Total.....	100.00	100.00	100.00	100.00	100.00
Total quantity in thousands of kin.....	8,034	3,817	5,819	8,366	8,771
Average value per kin.....	1.30	1.22	1.02	1.25	1.89

The decreasing share of the exports of waste silk destined for France and Italy and the increasing share of the United States are shown in the above table.

Spun-silk yarns.—The exports of spun-silk yarns, a semi-manufactured product, showed little increase until 1917, when the figures indicate a gain in quantity of almost 200 per cent over the average of the years 1914–1916. British India is the largest market for Japanese silk yarns. In the following table it will be noted that the price of spun-silk yarns has decreased, this being the opposite of what has occurred in the cases of raw silk and waste silk, as shown in the figures of the preceding tables.

¹ United States Commerce Reports, July 23, 1918.

Exports of spun-silk yarns, 1913-1917.

Year.	Quantity.	Value.	Average value per kin.
	<i>Kin.</i>	<i>Yen.</i>	<i>Yen.</i>
1913.....	502,731	2,222,710	4.42
1914.....	567,308	2,338,791	4.12
1915.....	577,088	2,151,553	3.73
1916.....	441,624	1,707,000	3.86
1917.....	1,493,335	3,981,523	2.67

Per cent increase in quantity, 1917 over 1913, 197.04 per cent.

Per cent increase in total value, 1917 over 1913, 79.13 per cent.

Cotton yarns.—Cotton yarns constituted, in normal years before the war, about 10 per cent of all Japanese exports. With the growth of the Japanese cotton manufacturing industry, there has been a tendency to weave a larger proportion of the yarns into cloth. Consequently, the importance of yarn exports has decreased. In 1913 yarns constituted 11.22 per cent of all exports and in 1917 only 6.75 per cent. It will be noticed in the following table that the weight of the yarn exported (measured in 1,000 kin) was less in 1917 than in 1913, although the value in yen was larger. The rise in value is found chiefly in the increase in the production of the finer grades of yarn (over No. 20). A large proportion of the finer Japanese cotton yarns are now being exported to China, a market which before 1916 was chiefly supplied by imports from Great Britain and the United States.

Exports of cotton yarns, by countries, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917
China.....	60,096	64,559	55,503	63,842	85,801
Kwantung.....	3,458	2,797	1,653	2,079	3,316
Hongkong.....	5,747	9,168	7,964	7,642	13,414
British India.....	987	971	405	3,239	4,133
Asiatic Russia.....			12	164	216
Philippine Islands.....	671	921	651	453	990
Other countries.....	39	139	23	173	269
Total.....	70,998	78,555	66,211	77,592	108,139
Total quantity in thousands of kin.....	136,051	165,291	164,761	156,303	132,977
Average unit value per kin.....	.52	.48	.40	.50	.81

Decrease in quantity, 1917 compared with 1913, 2.26 per cent.

Increase in value, 1917 compared with 1913, 52.31 per cent.

Increase in unit value, 1917 compared with 1913, 55.77 per cent.

Exports of cotton yarns, by grades, 1913-1917.

Year.	Up to No. 20 (coarser yarns.)			Over No. 20 (finer yarns.)		
	1,000 kin.	1,000 yen.	Average value per kin.	1,000 kin.	1,000 yen.	Average value per kin.
			<i>Yen.</i>			<i>Yen.</i>
1913.....	117,026	57,952	0.50	19,025	13,046	0.69
1914.....	144,928	64,683	.45	20,363	13,872	.68
1915.....	138,532	50,104	.36	26,229	16,107	.61
1916.....	123,790	56,133	.44	27,514	21,459	.78
1917.....	104,987	74,427	.71	27,989	33,713	1.20

In the proportionate share of the principal markets of the cotton yarn exports there have been no significant changes since 1913. The entire sales are to Oriental countries, chiefly (80 per cent) to China.

Miscellaneous textile materials.—The following table shows the exports of a number of miscellaneous items (included in Group VIII), of which waste cotton and waste cotton yarns are most important in quantity, and floss silk most important in value. Of each of these articles (with the exception of cocoons and the possible exception of linen yarns and twine) the quantity exported has increased since 1913.

Exports of miscellaneous textile materials, 1913 and 1917 (Group VII).

	1913		1917	
	Quantity (1,000 kin.)	Value (1,000 yen.)	Quantity (1,000 kin.)	Value (1,000 yen.)
Cocoons.....	378	663	283	769
Floss silk.....	356	1,043	1,305	6,160
Cotton wadding.....	748	237	1,370	516
Linen yarns.....	(¹)	(¹)	263	329
Cotton threads.....	239	212	1,616	1,766
Lace threads ²	302	273	819	864
Threads and twines of flax, hemp, jute, etc.....	(¹)	(¹)	1,274	580
Cordages and ropes of hemp, jute, etc.....	267	76	1,205	403
Woolen or worsted yarns.....	115	158	558	2,409
Waste cotton and waste cotton yarns.....	7,819	920	18,601	3,141
All other twines, cordages, and raw materials thereof.....		317		1,090

¹ First shown as an export article in the 1917 statistics.

² Fillet and Cluny laces.

TISSUES AND MANUFACTURES THEREOF.

(Group IX of Imports and Group VIII of Exports.)

The great increases in the exports of tissues and manufactures thereof in the years 1913–1917, accompanied by a marked decline in their importation, are an indication of the rapid development of the Japanese textile industries during the war.

Imports and exports of tissues and manufactures thereof, 1913–1917 (exclusive of clothing and accessories).

Year.	Imports.		Exports.	
	Value (1,000 yen.)	Per cent of total im- port trade.	Value (1,000 yen.)	Per cent of total ex- port trade.
1913.....	26,164	3.59	88,011	13.91
1914.....	18,095	3.04	81,309	13.74
1915.....	10,539	1.98	113,926	16.08
1916.....	12,817	1.70	143,955	12.78
1917.....	14,675	1.42	225,707	14.08

Decrease in imports, 1917 compared with 1913, 43.91 per cent.

Increase in exports, 1917 compared with 1913, 156.45 per cent.

IMPORTS.

Tissues and manufactures thereof.—Woolen tissues are the most important textile fabrics imported into Japan. Cotton fabrics are next in importance, followed by fabrics of flax, hemp, and jute, in the order named.

Imports of tissues, 1913–1917.

[Values in thousands of yen.]

Year.	Woolen tissues.	Cotton tissues.	Tissues of flax, hemp, or jute.	Other tissues.
1913.....	12, 445	10, 084	747	2, 889
1914.....	10, 225	5, 260	629	1, 981
1915.....	3, 623	4, 679	395	1, 842
1916.....	5, 131	4, 079	631	2, 926
1917.....	6, 219	3, 090	831	4, 534

Woolen tissues.—The imported woolen fabrics include serges, mouseline de laine, flannels, Italian cloth, alpacas, velvets and plushes, and mixtures of wool and cotton. Of these the most important single item is woolen cloth and serge weighing between 200 and 500 grams per square meter, of which there were imported 2,986,000 square yards, valued at 3,258,000 yen, in 1913, and only 1,151,000 square yards, valued at 2,414,000 yen, in 1917. Other items showed similar decreases.

Great Britain has always supplied the bulk of the Japanese imports of woolen cloths. Germany was, before the war, the only other considerable source. Since 1914 Great Britain has had a virtual monopoly of the market.

Imports of woolen tissues, 1913–1917.

[Values in thousands of yen.]

Imported from—	1913	1914	1915	1916	1917
Great Britain.....	9, 528	7, 674	3, 266	5, 077	6, 165
Germany.....	2, 227	1, 672	171	33	12
Other countries.....	690	879	186	71	42
Total.....	12, 445	10, 225	3, 623	5, 181	6, 219

PER CENT DISTRIBUTION.

Great Britain.....	76.56	75.05	90.15	97.99	99.13
Germany.....	17.89	16.35	4.71	.63	.19
Other countries.....	5.55	8.60	5.14	1.38	.68
Total.....	100.00	100.00	100.00	100.00	100.00

Cotton tissues.—Japan has never been a large purchaser of foreign cottons. For many years the people were too poor and too little accustomed to foreign goods to afford much of a market. Their needs were supplied by domestic production from hand looms. The maximum imports recorded were in 1906, 18,887,000 yen. Since that date the development of the cotton-weaving industry in Japan and the substitution of the power loom for the hand loom have tended

to decrease the amount of imports. In 1913 the imports were valued at 10,000,000 yen. Practically all of the coarse and medium grades of cotton cloths used in Japan are of domestic production, the imports being confined to the finer and lighter goods and specialties.

The decline in the cotton goods imports has been accelerated by the rapid development of the Japanese cotton-weaving industry during the war. In 1917 the imports of cotton cloth were only 3,090,000 yen, less than one-third the value of the imports in 1913.

The following table shows the value of the imports of the principal kinds of cotton goods in the years 1913 to 1917:

Imports of cotton tissues, 1913-1917.

[Values in thousands of yen.]

Year.	Velvets, plushes, other pile fabrics.	Shirtings and sheetings, gray.	Shirtings and sheetings, bleached.	Italians and satins.	Other cotton.	Total.
1913.....	1,859	1,222	1,184	3,434	2,385	10,084
1914.....	627	319	892	2,053	1,369	5,260
1915.....	558	143	892	1,923	1,163	4,679
1916.....	467	38	775	1,598	1,201	4,079
1917.....	359	71	596	1,081	983	3,090

Great Britain still supplies more than nine-tenths of the cotton goods imported into Japan. The share of the United States in the trade has been increasing during the war.

Percentage of imports of cotton tissues from specified countries, 1913-1917.

Imported from—	1913	1914	1915	1916	1917
Great Britain.....	91.54	90.36	95.62	92.91	92.83
United States.....	1.30	2.31	2.86	6.31	6.12
Other countries.....	7.16	7.33	1.52	.78	1.05
Total.....	100.00	100.00	100.00	100.00	100.00

Tissues of jute, flax, ramie, hemp, etc.—Burlap or coarse cloth of jute, used for sacks and wrapping, is imported almost entirely from British India. The flax, ramie, and hemp fabrics originate almost entirely in Great Britain.

Imports of jute, flax, etc, 1913-1917.

Year.	Jute fabrics.		Fabrics of flax, china grass, ramie, or hemp (including cotton mixture).		Other fabrics of jute, flax, etc.	Total tissues of jute, flax, ramie, hemp, etc.
	Quantity.	Value.	Quantity.	Value.	Value.	Value.
	1,000 sq. yds.	1,000 yen.	1,000 sq. yds.	1,000 yen.	1,000 yen.	1,000 yen.
1913.....	417	48	1,754	588	111	747
1914.....	694	81	1,355	433	115	629
1915.....	258	23	931	337	35	395
1916.....	826	56	1,001	512	63	631
1917.....	3,302	406	518	359	66	831

Miscellaneous textile manufactures (not including clothing and accessories).—In 1913 the most important items in this subdivision were woven belting (for power transmission) and woven hose, bookbinders' cloth, and linoleum. Other less important items were trimmings, carpets, insulating tape, emery cloth, woolen and cotton felt. In 1913 Great Britain and Germany supplied almost all of the first three items. Since 1914 Great Britain has secured all of the former German trade in these lines. Of the 1,257,000 yen worth of belting and hose, bookbinders' cloth, and linoleum brought from abroad in 1917, Great Britain supplied 1,185,000 yen. Imports of burlap (gunny) bags, chiefly from British India, increased from 76,100 yen in 1913 to 1,336,000 yen in 1917, the increased demand being due mainly to the increased exportation of rice and refined sugar from Japan.

Imports of miscellaneous tissues and manufactures, 1913-1917.

Year.	Bookbinders' cloth.		Oilcloth.		Woven belting for machinery.		Gunny bags.		All other.	Total value.
	1,000 sq. yds.	1,000 yen.	1,000 kin.	1,000 yen.	1,000 kin.	1,000 yen.	1,000 kin.	1,000 yen.	1,000 yen.	1,000 yen.
1913.....	1,540	264	1,133	224	454	561	411	76	1,764	2,839
1914.....	1,470	247	910	178	292	367	116	24	1,165	1,981
1915.....	1,529	260	1,168	236	130	190	.....	1,295	861	1,842
1916.....	1,718	310	1,562	400	152	250	.....	1,638	1,330	2,926
1917.....	2,361	562	1,253	390	160	315	.....	1,337	1,940	4,534

¹ Includes importation of old gunny bags, the quantity of which is not given in the available Japanese trade returns.

EXPORTS.

Tissues, and manufactures thereof.—Prior to the war, in 1913, silk cloths held first place among the exports of Japanese textile fabrics. Since 1914, however, the development of the cotton weaving industry has been so rapid that the exports of cotton cloths have become the most important. In 1917 the value of exports of cotton fabrics was double that of silk cloths. It will be noted that the exports of cotton fabrics increased in value almost five times as rapidly as those of silk.

The following table presents a summary of the changes in the exports of textile fabrics during the war:

Exports of tissues and manufactures thereof (except clothing and accessories), 1913-1917.

[Values in thousands of yen.]

Year.	Silk tissues.	Cotton tissues.	Other tissues (mostly woolen).	Towels, handkerchiefs, etc.	Total Group VIII.
1913.....	39,347	33,606	970	14,088	88,011
1914.....	34,023	34,841	1,700	10,745	81,309
1915.....	43,219	38,511	19,584	12,612	113,926
1916.....	50,632	60,051	13,033	20,239	143,955
1917.....	62,858	127,458	13,153	22,238	225,707
Per cent increase 1917 over 1913.....	59.75	279.27	1,255.98	57.85	156.45

Silk tissues.—Habutae ("soft as down") silk is by far the most important of the exports of Japanese silk fabrics, constituting annually from 80 to 90 per cent of the total. Habutae is of two sorts, "plain" and "figured," of which the former is much the more important. Before the war France was the largest purchaser of Japanese habutae. Large amounts were also sold in Great Britain, British India, and the United States. The striking development since 1913 has been the great increase in exports to the United States. The quantity exported to this country in 1913 was 376,400 kin, valued at 5,007,000 yen; in 1917 the figures were 879,600 kin, valued at 16,090,000 yen. The value of the exports of habutae to Great Britain, Canada, and Australia have increased; those to France have decreased considerably. The increasing exports to the United States and decreasing exports to France are explained to some extent by the fact that before the war much habutae bought by American firms was sent to France to be dyed.

It should be noted that the changes in the total amount (weight measured in kin) of habutae exported since 1913 have been insignificant. The increase in the value of the exports since 1913 is accounted for almost entirely by the rise in price.

Exports of habutae, plain and figured, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917
British India.....	6,813	3,274	5,406	4,133	3,955
Straits Settlements.....	549	149	223	280	244
Dutch East Indies.....	328	264	226	196	205
Great Britain.....	7,605	8,647	10,704	10,833	10,346
France.....	9,712	5,812	6,551	5,574	5,671
Italy.....	421	361	461	479	387
Germany.....	1,328	1,134	.....	.....	.....
Denmark.....	.....	.....	7	133	.....
United States.....	5,007	6,796	8,372	12,799	18,090
Canada.....	158	357	1,250	1,882	2,909
Argentina.....	49	65	244	316	461
Egypt.....	55	53	162	205	494
Cape Colony and Natal.....	65	49	140	152	379
Australia.....	1,959	3,653	4,450	3,340	4,407
New Zealand.....	.....	.....	.....	520	815
Other countries.....	933	322	361	434	619
Total value.....	34,882	30,890	38,557	41,276	47,482

PER CENT DISTRIBUTION.

British India.....	19.53	10.60	14.02	10.01	8.33
Great Britain.....	21.52	27.99	27.76	28.21	22.84
France.....	27.84	18.81	16.09	13.50	11.64
Germany.....	3.80	3.67	.....	.....	.....
United States.....	14.35	21.99	21.71	31.01	38.88
Canada.....	.45	1.16	3.24	4.56	6.13
Australia.....	5.61	11.82	11.54	8.09	9.28
Other countries.....	6.90	3.96	4.74	6.58	7.60
Total.....	100.00	100.00	100.00	100.00	100.00
Total quantity in thousands of kin.....	2,763	2,387	3,182	2,731	2,703
Average value per kin.....	12.62	12.94	12.12	15.11	17.57

Decrease in quantity, 1917 compared with 1913, 2.17 per cent.

Increase in value, 1917 compared with 1913, 36.12 per cent.

Increase in unit value, 1917 compared with 1913, 39.22 per cent.

Miscellaneous silk tissues.—In addition to habutae, the Japanese export a number of silk fabrics and silk and cotton mixtures. Of these the most important are silk crêpes, taffetas and satins, and silk and cotton satins and poungees. Tapestry silks and silk ribbons are new items appearing in the Japanese exports since the beginning of the war. The total value of the exports of these fabrics has increased steadily during the war, as is shown by the following statement:

	Yen.
1913.....	4,465,000
1914.....	3,133,000
1915.....	4,662,000
1916.....	9,366,000
1917.....	15,376,000

Cotton tissues.—Both the quantity and the value of every important Japanese cotton fabric in the export trade has increased during the war. The increase in the value of the total exports from 1913 to 1917 was 279.3 per cent. A computation of price changes of twelve important fabrics shows that the average increase was 42 per cent. This means that the same amount of goods which sold for 33,606,000 yen in 1913 would have sold for 47,720,000 yen in 1917. But as a matter of fact the total exports were valued at 127,458,000 yen in 1917, indicating an increase of 172.6 per cent in the quantity of cotton fabrics exported.

The destination of the exports of cotton fabrics is shown in the following table:

Exports of cotton tissues, 1913-1917.

(Values in thousands of yen.)

Exported to—	1913	1914	1915	1916	1917	Per cent increase or decrease (—), 1917 over 1913.
China.....	18,965	26,189	27,332	34,784	84,804	347.16
Kwantung.....	9,109	3,331	3,178	4,025	8,988	—1.33
Hongkong.....	1,143	1,032	913	1,454	2,648	131.67
British India.....	1,032	1,727	3,703	10,560	15,121	1,365.21
Straits Settlements.....	275	212	338	757	1,359	394.18
Dutch East Indies.....	233	183	429	2,243	5,701	2,346.78
French Indo-China.....	17	11	27	242	310	1,723.53
Asiatic Russia.....	881	754	905	525	1,959	122.36
Philippine Islands.....	546	308	247	277	1,066	95.24
Siam.....	113	61	69	180	382	238.05
Great Britain.....	105	75	193	762	61	—41.90
United States.....	317	234	312	1,428	1,655	422.08
Australia.....	531	495	532	1,873	1,747	229.00
New Zealand.....	.....	.....	.....	289	398	.....
Hawaii.....	152	101	181	222	265	74.34
Other countries.....	187	128	152	427	994	431.55
Total.....	33,606	34,841	38,511	60,051	127,458	279.27

PER CENT DISTRIBUTION.

	1913	1914	1915	1916	1917	
China.....	56.43	75.17	70.97	57.92	66.54	.....
Kwantung.....	27.11	9.56	8.25	6.70	7.05	.....
Hongkong.....	3.40	2.95	2.37	2.42	2.08	.....
British India.....	3.07	4.96	9.62	17.59	11.87	.....
Dutch East Indies.....	.69	.53	1.11	3.74	4.47	.....
United States.....	.94	.67	.81	2.38	1.30	.....
Other countries.....	8.28	6.15	6.87	9.25	6.69	.....
Total.....	100.00	100.00	100.00	100.00	100.00	.....

The most striking change is seen in the increasing share of British India and the Dutch East Indies in this trade. It will be noted that practically all of the Japanese cotton cloths are sold to oriental markets.

For cotton cloth as well as cotton yarn, Japan has practically a single market, viz., China (including Kwantung). The goods shipped to China consist chiefly of gray sheeting and shirting, drill and twilled shirting. Kwantung buys in addition white shirting and striped goods. Gray and white piece goods form over 30 per cent of all cottons imported by China; they amounted in 1917 to 13,469,000 pieces. Of this amount Japan supplied 8,714,700 pieces, or 64.7 per cent. The following table shows that the success of the Japanese cotton goods in the Chinese market during the war has been accompanied by decreasing purchases by China from the United States and Great Britain.

China's imports of gray and white piece goods, 1902, 1913, and 1917.

Imported from—	1902		1913		1917	
	Pieces.	Per cent of total.	Pieces.	Per cent of total.	Pieces.	Per cent of total.
Great Britain.....	10,301,295	51.30	9,977,830	49.45	3,513,540	26.09
Hongkong.....	1,271,991	6.34	1,553,575	7.70	1,053,879	7.82
India.....	32,718	.16	82,988	.41	24,606	.18
Japan.....	648,760	3.23	5,647,823	27.99	8,714,704	64.70
United States.....	6,251,319	31.13	2,151,960	10.67	70,830	.53
All other countries.....	1,572,588	7.84	762,665	3.78	91,735	.68
Total.....	20,078,671	100.00	20,176,851	100.00	13,469,294	100.00

The same tendencies are observable in the Chinese imports of all cotton piece goods; Japanese products now control the market.

In British India and other Asiatic countries, Japanese cotton cloths are selling in increasing quantities and British and American goods are severely affected by this competition. The exports of cotton cloths from the United States to all Asiatic countries decreased in value from \$8,792,000 in 1913 to \$2,998,000 in 1917, a drop of 65.9 per cent. The quantity decreased from 125,810,000 yards to 33,131,000 yards. The exports of cotton piece goods from Great Britain to the three principal oriental markets, China, the Dutch East Indies, and British India, showed marked decreases in the years 1913 to 1916.

Great Britain's exports of cotton piece goods, 1913-1916.

[000 omitted.]

Year.	China.		British India.		Dutch East Indies.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	<i>Yards.</i>		<i>Yards.</i>		<i>Yards.</i>	
1913.....	573,976	£9,471	3,067,351	£34,978	304,428	£4,014
1914.....	469,900	8,106	2,608,336	29,612	270,014	3,413
1915.....	318,779	4,705	1,908,085	20,217	231,172	2,660
1916.....	298,856	5,440	1,935,133	25,662	256,546	3,992

Miscellaneous tissues.—Prior to 1914 the exports of Japanese fabrics woven from wool, hemp, flax, jute and other fibers were insignificant in the total export trade, amounting in value to less than one million yen annually. Woolen cloths supplied almost one-half of the total value of the exports in this group. The large orders placed by the Russian Government with Japanese woolen mills in 1915 for garments for its soldiers caused an enormous increase in the exports of woolen cloths, from 569,000 yen in 1914 to 16,000,000 yen in 1915. The effect of the revolution in Russia is reflected in the sudden decrease in Japan's woolen cloth exports after 1915. In 1917 there appeared in the official statistics for the first time separate statements of the exports of fabrics of flax, hemp, jute, etc. (including cotton mixtures), these amounting in value to 1,769,400 yen.

The following table shows the exports of woolen, hemp, flax and jute fabrics for the years 1913–1917:

Japan's exports of tissues of wool, hemp, flax, jute, etc., 1913–1917.

[Values in thousands of yen.]

	1913	1914	1915	1916	1917
Mousseline de laine.....	232	187	1,349	2,718	2,205
Woolen cloths and serges.....	180	569	16,169	5,798	4,000
Cotton blankets.....	214	289	485	1,441	2,928
Other tissues.....	344	655	1,580	3,076	4,020
Total.....	970	1,700	19,583	13,033	13,153

The destination of the exports of woolen tissues is shown in the following table:

Exports of woolen tissues, 1913–1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917
China.....	173	145	72	288	2,349
Kwantung.....	153	162	150	215	753
British India.....	1	2	18	611	449
Asiatic Russia.....	2	800	16,614	5,073	1,859
Great Britain.....	1	3	829	660	372
France.....	1	1	221	1,317	981
Other countries.....	142	85	206	1,245	623
Total.....	472	1,198	18,110	9,409	7,386

The statistics in the preceding table include exports of mousseline de laine, woolen cloths, blankets of wool and of wool and cotton, and other woolen fabrics.

Manufactured textile articles (not including clothing and accessories).—Manufactures of textile goods were exported in 1913 to the value of 14,000,000 yen. Approximately 30 per cent of the exports in this group were handkerchiefs, 20 per cent cotton towels, 10 per cent tablecloths, and the remainder rugs, fishing nets, etc. New items appearing in 1917 were lamp wicks, 169,845 yen; tents and awnings, 367,671 yen; and cotton bags, 1,268,971 yen. The exports of haircloth have assumed considerable proportions. The horse hair used in the manufacture of this cloth is imported from China.

The total export value of the manufactured textile articles (not including clothing and accessories) for the years 1913-1917 was as follows:

	Yen.
1913.....	14, 088, 213
1914.....	10, 745, 503
1915.....	12, 611, 906
1916.....	20, 239, 372
1917.....	22, 238, 174

The cotton towels are exported principally to China, the tablecloths and silk handkerchiefs to the United States, Central America, and Mexico. The following table shows the destination of the exports of the three most important articles in the group:

Exports of cotton towels,¹ tablecloths, and silk handkerchiefs, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917 ²
Great Britain.....	1, 174	660	1, 117	1, 441	744
China.....	838	726	503	692	1, 219
Kwantung.....	116	51	43	122	190
Hongkong.....	596	571	450	515	560
British India.....	641	431	439	864	242
Straits Settlements.....	176	165	147	190	188
Dutch East Indies.....	173	145	160	267	191
Australia.....	498	509	572	782	459
United States.....	1, 441	1, 893	1, 971	3, 570	4, 464
Canada.....	229	174	110	219	346
Argentina.....	1, 108	167	401	552	576
Egypt.....	60	31	116	215	242
Cape Colony and Natal.....	48	79	183	212	223
Other countries.....	1, 677	737	495	849	908
Total.....	8, 775	6, 339	6, 707	10, 490	10, 552
Other manufactured textile articles.....	6, 333	4, 407	5, 905	9, 750	11, 687
Total.....	14, 088	10, 746	12, 612	20, 239	22, 238
Per cent of cotton towels, tablecloths and silk handkerchiefs exported to United States.....	18. 54	29. 80	29. 36	33. 99	41. 92

¹ Does not include Japanese toweling.

² Does not include doilies and centers valued at 1,295,070 yen.

CLOTHING AND ACCESSORIES THEREOF.

(Group X of Imports and Group IX of Exports.)

These groups consist almost entirely of manufactured articles the raw materials for which are cotton, wool, silk, leather, straw, iron and steel, precious metals, ocean and other shells. Very little clothing was imported even before the war. The annual value of the imports has decreased from 1,366,000 yen in 1913 to 924,000 yen in 1917. Increased manufacture of articles of dress has been a part of the industrial growth of Japan during the war, as is evidenced by the rapid increase in the exports of clothing.

Trade in clothing and accessories thereof, 1913-1917.

Year.	Imports.		Exports.	
	Value (1,000 yen).	Per cent of total im- port trade.	Value (1,000 yen).	Per cent of total ex- port trade.
1913.....	1,366	0.18	25,900	4.10
1914.....	898	.15	23,876	4.04
1915.....	369	.07	36,532	5.16
1916.....	705	.09	65,886	5.84
1917.....	924	.09	64,618	4.03

Decrease in imports, 1917 compared with 1913, 32.36 per cent.

Increase in exports, 1917 compared with 1913, 149.49 per cent.

IMPORTS.

Clothing and accessories.—In 1913 the imports of clothing, mostly of European design, amounted in value to 1,365,600 yen. In the years of commercial depression, 1914 and 1915, the amount imported decreased; the import was valued in 1915 at only 369,300 yen. By 1917 the import had increased to 923,800 yen. The principal items are felt hats and hat bodies, undershirts and drawers, which are purchased from Great Britain and Italy. Before the war, Germany supplied gloves and buttons (mostly vegetable ivory). India rubber shoes are imported from the United States.

EXPORTS.

The exports of clothing and accessories increased from 25,900,000 yen in 1913 to 64,618,000 yen in 1917. The largest items in this group were the products of the Japanese textile factories, principally cotton hosiery and knit goods, such as undershirts and drawers, gloves, and stockings. The knit goods and hosiery formed 50 per cent of the value of all the clothing exports in 1917.

Japanese hosiery and knit goods are sold principally to oriental markets, chiefly China and British India. During the years 1915 and 1916 there was a considerable trade in this line with Great Britain. In 1917, however, there was a marked decrease, the result of the prohibition by Great Britain of the import of Japanese hosiery.

Exports of cotton undershirts and drawers, knit; knitted socks, stockings and gloves, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917
China.....	1,892	1,824	1,436	4,432	1,911
Kwantung.....	534	434	363	607	1,098
Hongkong.....	1,340	1,183	861	743	1,050
British India.....	4,953	4,696	3,312	6,951	6,404
Dutch East Indies.....	352	416	602	1,251	757
Asiatic Russia.....	31	21	151	2,927	451
Philippine Islands.....	640	635	1,123	1,112	1,661
Great Britain.....	177	222	3,072	10,169	4,127
Cape Colony and Natal.....	109	115	265	1,527	1,368
Australia.....	130	126	397	2,520	920
Other countries.....	704	638	781	1,789	3,518
Total.....	10,862	10,310	12,363	34,028	26,265
Total quantity in 1,000 dozens.....	8,039	7,698	7,721	15,294	12,276

Increase in value of exports, 1917 over 1913, 141.83 per cent.

Increase in quantity of exports, 1917 over 1913, 52.71 per cent.

Buttons, hats, and shoes.—The manufacture of buttons, especially pearl buttons, has developed rapidly in Japan during the war, and large quantities of that product are now exported annually to the United States.

Exports of buttons, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917
China.....	222	174	189	388	1,062
British India.....	195	316	668	1,166	837
Philippine Islands.....	13	53	143	321	204
United Kingdom.....	965	484	1,516	1,805	1,512
France.....	169	107	137	284	443
United States.....	113	376	471	1,642	2,096
Canada.....	62	94	94	300	398
Argentina.....	50	8	17	121	312
Australia.....	192	257	354	700	717
Other countries.....	1,331	858	419	790	2,677
Total.....	3,312	2,727	4,008	7,517	10,258
Percentage exported to the United States.....	3.41	13.79	11.75	21.84	20.43

Increase in total exports of buttons, 1917 over 1913, 209.75 per cent.

The Japanese hats which are exported are chiefly imitation Panamas, a paper product. Between 60 and 70 per cent of the hats exported go to the United States. The exports of hats, caps, and bonnets by classes and countries of destination are shown in the following table:

Exports of hats, caps, and bonnets, 1913-1917.

[Values in thousands of yen.]

	1913	1914	1915	1916	1917
Felt.....		107	60	96	450
Straw.....	546	176	160	361	421
Imitation Panamas.....	4,030	3,645	2,791	5,456	4,331
Other.....	1,044	311	298	751	779
Total.....	5,620	4,239	3,309	6,664	5,981
Quantity of Panamas in thousands of dozens.....	184	295	255	479	455
Value per dozen.....	21.90	12.36	10.95	11.39	9.52
Exported to:					
China.....	857	335	251	272	516
Hongkong.....	171	108	82	114	307
British India.....	32	11	39	269	99
Dutch East Indies.....	31	38	92	270	427
Great Britain.....	61	108	128	142	66
United States.....	3,716	3,089	1,986	4,386	3,150
Australia.....	91	225	522	821	476
Other countries.....	692	335	209	390	941
Total.....	5,620	4,239	3,309	6,664	5,981
Percentage exported to the United States.....	66.13	72.89	60.04	65.82	52.66

The leather shoe industry has been greatly enlarged owing to orders received from the Russian Government and the increasing use of shoes by the Japanese people. The exports of shoes rose from less than 100,000 yen in 1914 to over 8,500,000 yen in 1916; the exports in 1917 were valued at nearly 5,000,000 yen. The exports of boots and shoes to Asiatic Russia were 1,261,597 pairs valued at 8,480,497 yen in 1915; 442,294 pairs valued at 2,672,406 yen in 1916, and 422,399 pairs valued at 2,551,974 yen in 1917.

PAPER, PAPER MANUFACTURES, BOOKS, AND PICTURES.

(Group XI of Imports and Group X of Exports.)

Prior to 1917 the imports of paper and manufactures thereof always exceeded the exports. The following table shows the total trade of Japan in paper and paper manufactures for the period 1913 to 1917. A decrease in imports of 35 per cent for 1917 as compared with 1913 contrasts with an increase in exports of 307 per cent.

Trade in paper and manufactures thereof, 1913-1917.

Year.	Imports.		Exports.	
	Value (1,000 yen).	Per cent of total import trade.	Value (1,000 yen).	Per cent of total export trade.
1913.....	13,038	1.79	5,435	0.86
1914.....	10,446	1.75	4,706	.80
1915.....	9,786	1.84	6,352	.90
1916.....	16,240	2.15	14,351	1.27
1917.....	8,420	.81	22,119	1.38

Wood pulp is included with paper in the figures of imports and is the most important item therein; whereas the exports consist entirely of manufactured articles.

The figures of imports of wood pulp are given in the following table:

IMPORTS.

Imports of pulp for paper making, 1913-1917.

[000 omitted.]

Year.	Total imports.		From Sweden.		From Norway.		From Canada.		From Germany.	
	Quan- tity.	Value.	Value.	Per cent (in value) of total im- ports.	Value.	Per cent (in value) of total im- ports.	Value.	Per cent (in value) of total im- ports.	Value.	Per cent (in value) of total im- ports.
1913.....	<i>Kin.</i> 79,762	<i>Yen.</i> 4,620	<i>Yen.</i> 1,255	27.16	<i>Yen.</i> 382	8.27	<i>Yen.</i> 354	7.66	<i>Yen.</i> 2,176	47.10
1914.....	76,175	4,574	1,695	37.06	595	13.01	257	5.62	1,629	35.61
1915.....	90,193	5,975	3,659	61.24	956	16.00	706	11.82	68	1.14
1916.....	96,969	9,018	5,697	63.17	1,345	14.91	656	7.27	73	.81
1917.....	24,080	2,801	446	15.92	26	.93	1,491	52.23	.....	.....

Unit value of pulp per kin: 1913, 0.06 yen; 1914, 0.06 yen; 1915, 0.07 yen; 1916, 0.09 yen; 1917, 0.12 yen.

The outbreak of the war produced a panic among the manufacturers of paper in Japan. They had been mainly dependent upon Germany, Sweden, Norway, and Canada for pulp, there being but one pulp mill at that time (1914) in Japan. When the war threatened to shut off the pulp imports, importation greatly in excess of the domestic requirements was resorted to in 1915 and 1916, notwithstanding an increase of 50 per cent in the price of this commodity. Production of pulp was begun on an experimental scale, and the

industry developed rapidly in Karafuto and the islands of Hokkaido and Formosa. According to a statement in the Economic and Financial Monthly of Japan (March, 1918) the output of paper pulp, in Japan and dependencies, rose from approximately 100,000 tons in 1915 to 150,000 in 1917. The decline in the imports of pulp from 96,969,000 kin in 1916 to 24,080,000 kin in 1917, taken in connection with the figures of paper production, indicates the extent to which Japan is attaining independence of foreign countries for her supply of pulp. Shortage of shipping and the unusually large imports in 1915 and 1916 were also factors, however, in causing the decrease in imports in 1917. With the elimination of the German imports, the imports from the other sources, especially Sweden and Norway, increased.

Most important in the imports of paper and manufactures thereof, after pulp, and in the order named, were printing paper, imitation Japanese paper and tissue paper, packing paper, and writing paper. The paper industry of Japan has expanded greatly during the war period, and in certain lines, for example, printing paper, the Japanese manufacturers had by 1917 practically monopolized the Japanese market. More than 60 mills are now engaged in paper production and their capacity and output is rapidly increasing. The increase has been chiefly in the foreign type of papers ("European"), which are used almost solely for printing.

The output of foreign type paper in recent years was as follows:

	Pounds.
1912.....	252,000,000
1913.....	296,000,000
1914.....	328,000,000
1915.....	368,000,000
1916.....	405,000,000

The production of Japanese paper on the other hand has fallen off. The imports of paper by values are given in the following tables:

Imports of pulp and paper, 1913-1917.

[Values in thousands of yen.]

	1913	1914	1915	1916	1917
Pulp for paper making.....	4,620	4,574	5,975	9,018	2,801
Printing paper weighing not more than 58 grammes per square meter.....	841	622	90	145	51
Printing paper, other.....	2,705	1,435	1,106	2,005	866
Writing paper.....	444	350	297	527	377
Packing paper.....	690	563	470	929	931
Pasteboard and cardboard.....	393	327	175	511	311
Imitation Japanese paper and tissue paper.....	799	718	279	543	281
Fancy paper.....	456	281	234	190	439
Bromide and platinum paper.....	123	131	164	282	320
Books, periodicals, etc.....	618	504	428	828	853
All other paper and manufactures of.....	1,350	941	569	1,263	1,191
Total.....	13,039	10,446	9,787	16,240	8,421

Imports of paper (not including pulp or manufactures of paper), 1913-1917.

[Values in thousands of yen.]

Imported from—	1913	1914	1915	1916	1917	Per cent increase or decrease (-), 1913-1917.
Germany.....	2,245	1,729	55	24	.....	.....
Great Britain.....	2,155	1,460	1,589	2,696	1,221	-43.35
Sweden.....	1,017	895	645	961	515	-49.36
Norway.....	193	130	186	495	224	16.06
United States.....	293	164	436	1,472	1,995	580.89
Other countries.....	1,334	508	117	179	144	-89.21
Total.....	7,237	4,886	3,028	5,827	4,098	-43.37
Per cent supplied by the United States.	4.05	3.36	14.40	25.26	48.68	.....

The imports of packing paper, bromide and platinum paper, and books and periodicals were the only items in this group which showed an increase in 1917 as compared with 1913. The imports of pulp, printing paper, and imitation Japanese and tissue paper showed the most conspicuous decreases in 1917 as compared with 1913. The imports of manufactures of paper were small in amount.

Printing paper was imported before the war mainly from Great Britain (40 per cent in 1913), Germany (34 per cent in 1913), Belgium (11 per cent in 1913), and the United States (5 per cent in 1913). Writing paper came mainly from Great Britain, and packing paper from Sweden. The imports of paper from the United States have increased considerably since the outbreak of the war, and this country is in first place, with Great Britain, which was formerly second to Germany in value of imports, now next in importance. The imports from Sweden, which is now third in the order of importance, show a decrease in value in 1917 as compared with 1913.

• EXPORTS.

Japan's figures of exports of paper are shown by values and countries in the following tables:

Exports of paper, by kinds, 1913-1917.

[Values in thousands of yen.]

Kinds.	1913	1914	1915	1916	1917	Per cent increase or decrease (-), 1913-1917.
Printing.....	499	630	1,469	4,670	7,213	1,345.49
Pasteboard.....	312	317	424	986	1,354	333.37
Packing.....	35	46	96	357	819	2,240.00
Wall.....	171	145	34	69	142	-16.96
Other foreign.....	71	73	240	1,212	2,039	2,771.83
Cigarette.....	.....	.....	.....	.....	1,590	.....
Gampi and usuyo.....	402	336	258	378	574	42.78
Yoshino and tengujo.....	149	111	122	128	163	9.39
Torinoko.....	348	177	235	236	472	35.63
Renshi.....	470	322	327	533	723	53.83
Toyo.....	141	137	105	126	156	10.64
Haushi and mino.....	161	173	272	268	320	98.75
Japanese toilet.....	87	76	94	188	253	190.80
Other Japanese.....	248	285	670	631	277	11.69
Total.....	3,094	2,828	4,346	9,782	16,095	420.20

Exports of paper, by countries, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917	Per cent increase or decrease (—) 1913-1917.
China.....	1,341	1,302	2,148	4,687	6,354	373.82
Kwantung.....	529	476	763	1,333	1,925	263.89
Hongkong.....	75	79	246	723	1,866	2,388.00
British India.....	137	115	227	603	2,287	1,569.34
Straits Settlements.....	24	17	86	164	342	1,325.00
Asiatic Russia.....	19	14	142	1,086	269	1,315.79
Great Britain.....	273	227	220	221	174	-36.27
United States.....	397	363	241	317	570	43.58
Australia.....	58	54	85	216	337	481.03
Other countries.....	241	180	188	432	1,971	717.84
Total.....	3,064	2,828	4,346	9,782	16,095	420.20

PER CENT DISTRIBUTION.

China.....	43.34	46.07	49.44	47.91	39.48	.....
Kwantung.....	17.10	16.82	17.54	13.62	11.96	.....
Hongkong.....	2.42	2.78	5.67	7.39	11.59	.....
British India.....	4.44	4.06	5.23	6.15	14.21	.....
Straits Settlements.....	.77	.60	1.98	1.67	2.13	.....
Asiatic Russia.....	.62	.49	3.25	11.10	1.67	.....
Great Britain.....	8.82	8.04	5.04	2.25	1.08	.....
United States.....	12.82	12.83	5.59	3.24	3.54	.....
Australia.....	1.88	1.92	1.96	2.22	2.09	.....
Other countries.....	7.79	6.39	4.30	4.45	12.25	.....
Total.....	100.00	100.00	100.00	100.00	100.00	.....
Percentage exports of paper are of total export trade.....	.49	.48	.61	.87	1.00	.....

In 1913 the output of the Japanese paper industry was valued at about 23,000,000 yen; the exports were valued at 5,434,000 yen. Of the exports, 3,096,000 yen consisted of paper and 2,339,000 yen consisted of manufactures of paper. The exports of paper manufactures comprise a large variety of products. Among the important items are labels, blank books and note books, books and journals, and printed matter. The last two items consist in part of reprints of foreign publications in their original languages. In 1917, for the first time, exports of playing cards and of waste paper were enumerated separately, the exports of waste paper being the largest single item among the exports of paper products. The figures of exports of paper manufactures are given in the following table. The bulk of these manufactures is exported to China and other Far Eastern countries.

Exports of paper manufactures, 1913-1917.

[Values in thousands of yen.]

Articles.	1913	1914	1915	1916	1917
Blank books and note books.....	99	90	120	310	486
Mouthpieces for cigarettes.....	372	202	202	207	159
Paper napkins.....	245	188	192	289	302
Labels.....	116	131	166	364	553
Playing cards.....	.....	.....	.....	.....	403
Photographs, post cards, and pictures.....	235	108	96	115	176
Books and journals.....	484	414	405	493	603
Printed matters.....	212	262	172	328	674
Waste paper.....	.....	.....	.....	.....	1,195
All other paper manufactures.....	576	483	653	2,462	1,373
Total paper manufactures.....	2,339	1,878	2,006	4,568	6,024

The Japanese paper-making industry confined itself prior to the war to papers of peculiar Japanese type, which were produced for home consumption or were exported under Japanese trade names. Very little foreign-type paper, such as printing, packing, and wall paper, was made or exported, while on the other hand, there were, as has been shown, considerable imports into Japan. For 1917 the imports of printing paper were less than a million yen, but the exports, which in 1913 had been less than one-half million yen, rose in 1917 to 7,213,000 yen, representing about one-third in value of all exports of paper and manufactures for that year. China is the best market for Japanese paper, and the market is at present limited almost wholly to Far Eastern countries. Even though the supply of paper in Japan is limited, greatly increased exports were sent to China, British India, and Hongkong, where, despite the high prices ruling in Japan, the reduction in shipments from Europe stimulated the demand for the Japanese products.

MINERALS AND MANUFACTURES THEREOF.

(Group XII of Imports and Group XI of Exports.)

In the trade in minerals Japan's exports exceed her imports, this being accounted for particularly by the large exports of Japanese soft coal (bunker coal). The total trade in minerals and manufactures thereof is as follows:

Trade in minerals and manufactures thereof, 1913-1917.

Year.	Imports.		Exports.	
	Value (1,000 yen).	Per cent of total im- port trade.	Value (1,000 yen).	Per cent of total ex- port trade.
1913.....	14,312	1.94	24,999	3.95
1914.....	15,370	2.58	25,765	4.35
1915.....	9,322	1.75	22,191	3.13
1916.....	10,386	1.37	24,376	2.16
1917.....	21,990	2.12	31,387	1.96

Increase in imports, 1917 compared with 1913, 53.65 per cent.

Increase in exports, 1917 compared with 1913, 25.55 per cent.

IMPORTS.

The following table shows the imports of minerals and manufactures thereof, by articles.

Imports of minerals and manufactures thereof, 1913-1917.

[Values in thousands of yen.]

Articles.	1913	1914	1915	1916	1917
Mineral substances for grinding or polishing.....			47	127	159
Metal polishes.....	75	62	68	105	192
Grindstones or whetstones, artificial.....	92	72	70	100	183
Precious stones.....			55	604	1,414
Asbestos and manufactures thereof in lump, powder, or fiber.....	73	61	246	820	2,271
Asbestos yarn.....	64	47			
Other yarn.....	99	80	127	236	246
Talc and soapstone.....			109	174	354
Phosphorite (rock phosphate).....	8,618	7,116	4,403	2,731	5,099
Gypsum.....	29	34	44	97	137
Cryolite.....			77	171	8
Plumbago.....	46	25			
Clay.....			82	270	431
Coal.....	4,034	6,691	3,458	4,236	9,038
Coke.....	422	325	84	61	1,608
All other minerals and manufactures thereof.....	760	857	452	654	850
Total.....	14,312	15,370	9,322	10,386	21,990

Fertilizer.—Prior to the war, and as recently as 1914, phosphorite or rock phosphate, which is used for fertilizer, was the principal item of import in this group, constituting about 60 per cent of the total imports of minerals and manufactures thereof. The Japanese statistics do not adequately account for the origin of the imports of phosphorite, about 75 per cent of the total being entered as imports from "all other countries." The balance is credited to the United States, Great Britain, and Egypt in the order named. The imports from the United States amounted in 1913 to 958,000 yen, and in 1914 to 1,132,000 yen, out of a total import of phosphorite amounting to 8,618,000 and 7,116,000 yen for the two years, respectively. From unofficial sources it appears that the bulk of the imports from sources not specified originate in various islands of the southern Pacific, particularly the islands taken by Japan from Germany since the outbreak of the war.

Japan is a large importer of fertilizer, including oil cake and nitrates as well as phosphates. In 1913, for instance, the imports of all kinds of fertilizer and material for fertilizer amounted in value to over 70,000,000 yen, or over 10 per cent of the total import trade of Japan, and were second in importance only to the imports of cotton. The use of fertilizer in great quantities dates from about 1905, since which time there have been marked increases both in domestic production and in imports. This resulted in a serious setback to the growing import trade. The imports, which were over 70,000,000 yen in 1913, fell in 1914 to 63,000,000 yen, and in 1915 to 48,000,000 yen. This marked decline in imports of fertilizers was due to a combination of factors: among the most conspicuous were the decreased production in belligerent countries which formerly supplied Japan, increase in cost, and difficulties of transportation. The shortage was met to some extent by decreased consumption and by increased production in Japan, so that in 1916 and 1917 Japan was able to export considerable quantities of fertilizer to foreign countries.

Coal.—The imports of hard coal for industrial purposes, and especially for the use of the iron and steel industry, ranked second in importance in the import trade of non-metallic minerals, and accounted in value for from 30 to 40 per cent of the total imports in this group. Japan produces hardly any hard coal, and the domestic production is restricted to the use of the Imperial Navy. Japanese industries are therefore dependent upon foreign sources for supplies of hard coal. The figures of imports of coal are given by values, quantities, and countries in the following table:

Imports of coal, 1913-1917.

[Values in thousands of yen.]

Imported from—	1913	1914	1915	1916	1917
China.....	1,627	4,733	2,733	2,236	5,439
Kwantung.....	2,086	1,322	444	866	1,834
French Indo-China.....	155	380	927	1,066	1,725
Great Britain.....	166	217	304	.....	.....
Other countries.....	.....	39	50	68	40
Total.....	4,034	6,691	4,458	4,236	9,038
Total quantity in thousands of tons.....	572	950	610	552	707
Average value per ton.....	7.05	7.04	7.31	7.67	12.78

Increase in total value, 1917 compared with 1913, 124.04 per cent.
 Increase in quantity, 1917 compared with 1913, 23.60 per cent.
 Increase in unit value, 1917 compared with 1913, 81.27 per cent.

The most important sources of imported coal in 1913 were China and Kwantung. Since the outbreak of the war the imports from Kwantung have declined markedly, but the decrease has been offset in large part by greatly increased imports from French Indo-China. The import price of hard coal has increased about 80 per cent, while the total imports were 23 per cent greater in quantity in 1917 than in 1913.

The imports of other non-metallic minerals are small and unimportant.

EXPORTS.

More than 90 per cent of the exports in this group consist of soft coal, used largely for bunkering ships. Of the remaining exports, cement is important. There are also substantial exports of plum-bago and slate. The figures of exports by classes for 1913 and 1917 are as follows:

Exports of minerals and manufactures thereof, 1913 and 1917.

[000 omitted.]

Articles.	Unit.	1913		1917	
		Quantity.	Value.	Quantity.	Value.
Coal:			Yen.		Yen.
Lump.....	Tons....	3,275	20,996	2,325	22,842
Dust.....	Tons....	564	2,633	466	3,612
Coke.....	Tons....	7	134	3	113
Portland cement.....	Kin.....	44,691	656	150,661	2,678
All other minerals and manufactures thereof.	Kin.....		581		2,142
Total.....			25,000		31,387
Average unit value of:					
Lump coal.....			6.41		9.82
Dust coal.....			4.67		7.75
Cement.....			0.01		0.02

Coal.—The figures of exports of coal by total values and quantities and by countries is given in the following tables:

Exports of coal (not including coke), 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917
China.....	7,333	7,459	5,851	6,549	9,736
Hongkong.....	6,277	6,776	4,484	4,954	6,740
British India.....	1,095	511	277	157	179
Straits Settlements.....	3,594	3,649	3,269	3,195	4,351
Dutch East Indies.....	639	1,056	1,500	878	633
French Indo-China.....	237	406	192	345	671
Russia, Asiatic.....	422	493	631	355	338
Philippine Islands.....	2,302	2,172	2,098	2,691	3,385
United States.....	1,111	633	63	111	97
Australia.....				173	
Hawaii.....	147	187	775	774	187
Total.....	23,629	23,915	19,237	20,406	26,454

Exports of coal (not including coke) 1913-1917—Continued.

PER CENT OF DISTRIBUTION.

Exported to—	1913	1914	1915	1916	1917
China.....	31.04	31.19	30.41	32.09	36.80
Hongkong.....	26.56	28.33	23.31	24.28	25.48
British India.....	4.63	2.14	1.44	.77	.67
Straits Settlements.....	15.21	15.26	16.99	15.66	16.45
Dutch East Indies.....	2.70	4.41	7.80	4.30	2.39
French Indo-China.....	1.00	1.70	1.00	1.69	2.54
Russia, Asiatic.....	1.79	2.06	3.28	1.74	1.28
Philippine Islands.....	9.74	9.08	10.91	13.18	12.79
United States.....	4.70	2.65	.33	.54	.37
Australia.....				.85	
Hawaii.....	.62	.78	4.03	3.79	.71
Other countries.....	2.01	2.40	.50	1.11	.52
Total.....	100.00	100.00	100.00	100.00	100.00
Total quantity in thousands of tons.....	3,840	3,558	2,901	2,993	2,791
Average value per ton.....	6.15	6.72	6.63	6.75	9.48
Per cent exports of coal are of total export trade.....	3.74	4.05	2.72	1.81	1.65

Increase in total value, 1917 compared with 1913, 11.96 per cent.

Decrease in quantity, 1917 compared with 1913, 27.32 per cent.

Increase in unit value, 1917 compared with 1913, 54.15 per cent.

The total exports of coal have decreased in quantity since 1913 by over 27 per cent, but an increase in the average export price of Japanese coal of over 54 per cent resulted in an increase of 12 per cent in the value of the exports of coal in 1917 as compared with 1913. China is the most important market for Japanese coal, followed by Hongkong, the Straits Settlements, and the Philippines, in the order named. Before the war there were important exports to the United States, amounting in value in 1913 to 1,111,000 yen, or 4.7 per cent of the total. Coal exports to the United States decreased greatly, however, during the war period, and in 1917 amounted in value to only 97,000 yen, or about one-half per cent of the total Japanese exports of coal. Some of this coal was for consumption in Manila, but the most of it was bunker coal for American steamers. The exports to Hawaii, on the other hand, increased considerably during the war period.

Cement.—The cement industry in Japan has developed greatly during the war period. Importation has practically ceased. The domestic output increased from 4,562,000 barrels in 1913 to 7,090,000 barrels in 1915. Increased building in Japan, owing to a decrease in prices of building material and to industrial development, resulted in a greater domestic demand for cement. Measures are already being taken to insure the continuance of prosperity in this industry after the war by encouraging the use of cement for the production of artificial stone, for use in road making, and in construction work. Although domestic consumption has increased, there has been a marked increase in the quantity of exports. The figures of exports are given in the following table:

Exports of Portland cement, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917.
Kwantung.....	449	413	101	294	344
British India.....	18	75	730	584	431
Dutch East Indies.....	.....	68	447	844	1,276
Philippine Islands.....	126	252	431	333	126
Australia.....	1	4	218	24	.....
Other countries.....	62	221	538	640	501
Total.....	656	1,033	2,465	2,719	2,678
Total quantity in thousands of kin.....	44,691	74,885	200,584	193,429	150,661

The exports of cement increased in quantity from 44,691,000 kin in 1913 to 150,661,000 kin in 1917, and in value from 656,000 yen in 1913 to 2,678,000 yen in 1917. The exportation is mainly to the Dutch East Indies, British India, the Philippines, and Kwantung. The exports to the Dutch East Indies were not important enough in 1913 to receive separate enumeration, whereas in 1917 they amounted to over 47 per cent of the total exports of cement and were greater than the exports to any other country. The exports to British India and the Philippines have also increased markedly during the war period. The exports to Kwantung, on the other hand, in 1917 were only 77 per cent of what they had been in 1913.

Other minerals.—In 1917 for the first time Japan exported plumbago to the value of 205,000 yen and slate and slate pencils to the value of 315,000 yen. The exports of minerals not separately listed rose from 581,000 yen in 1913 to 1,622,000 yen in 1917.

POTTERY, GLASS, AND GLASS MANUFACTURES.

(Group XIII of Imports and Group XII of Exports.)

Even before the war the exports of articles in this group greatly exceeded the imports. The bulk of the imports consisted of glass and manufactures thereof, whereas the exports consisted in greater part of the products of the potteries. During the war period the exports of both pottery and glass and manufactures thereof increased greatly. The exports of pottery in 1917 represented an increase of 115 per cent over those of 1913 and the 1917 exports of glass and glass manufactures were more than three times as large as those of 1913. On the other hand the imports decreased, and the exports of both classes of articles are now much greater than the imports. The figures of imports and exports for the group as a whole are given in the following table:

Trade in pottery, glass, and glass manufactures, 1913-1917.

[Values in thousands of yen.]

Year.	Imports.				Exports.			
	Pottery.	Glass and manufactures thereof.	Total.	Per cent of total import trade.	Pottery.	Glass and manufactures thereof.	Total.	Per cent of total export trade.
1913.....	557	3,451	4,008	0.55	16,724	3,319	10,043	1.59
1914.....	319	2,576	2,895	.49	15,989	2,926	8,915	1.51
1915.....	79	1,173	1,252	.24	6,984	5,873	12,857	1.82
1916.....	254	2,290	2,544	.31	12,104	10,397	22,501	1.99
1917.....	561	2,530	3,091	.30	14,474	14,460	28,934	1.81

¹ Includes cloisonné.

IMPORTS.

Pottery.—Considerable changes have occurred in the character of the Japanese ceramic industry. The war has effected a marked increase in the demand for Japanese pottery products, and especially for plates, saucers, and coffee cups. The elimination of the German products from the market was an important factor in bringing this about. But the profits under the old methods were small, and the cost of kaolin, chemicals, and labor had increased. The hope of developing the industry appeared to lie in modern methods of production, and a movement was begun to change from hand labor processes to machine processes. The use of coal was introduced into the industry, and methods of manufacture were developed whereby work which had previously required a week's time could be done in a day. These measures have met with considerable success.

Imports of pottery products, 1913-1917.

[Values in thousands of yen.]

	1913	1914	1915	1916	1917
Fire bricks.....	406	139	43	208	496
Pottery.....	151	180	35	46	62
Total.....	557	319	78	254	558
Imported from—					
Great Britain.....	139	122	39	66	54
Belgium.....	148	13			
Germany.....	118	20			
United States.....	121	142	27	160	330
Other countries.....	31	22	12	28	174
Total.....	557	319	78	254	558

The imports of pottery products have always been small. They decreased during the war period until 1917; in 1917 they were about the same in value as in 1913. Imports of fire bricks constituted prior to the war over 70 per cent of the total imports of china and earthenware. They decreased greatly from 1913 to 1915, but recovered somewhat in 1916, and were considerably greater in 1917 than in 1913. In 1913 the imports of fire bricks came from Belgium, Germany, Great Britain, and the United States, in the order named; the imports of pottery came almost wholly from the United States and Great Britain. After the outbreak of the war the imports of fire bricks and pottery from Belgium and Germany practically ceased, and the imports from Great Britain decreased greatly. The imports from the United States, on the other hand, showed a slight increase.

EXPORTS.

The exports have increased greatly during the war period, and the proportion of the total Japanese production exported rose from 40 per cent prior to the war to 70 per cent in 1916. There was an especially great increase in the export of porcelain pottery, owing to the disappearance of German and Austrian products from the world's markets. Porcelain insulators and other porcelain articles for industrial purposes are going to India, Australia, and the South Sea Islands in considerable quantities. Many Japanese manufac-

turers are almost totally abandoning production for the domestic market and are devoting themselves to production for export. The following tables show the values of the exports of pottery by countries for the period 1913 to 1917:

Exports of pottery, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917	Per cent of increase or decrease, (-), 1913-1917.
China.....	388	459	477	1,260	1,980	410.31
Kwantung.....	203	167	165	354	722	255.66
Hongkong.....	405	351	298	499	712	75.80
British India.....	321	240	517	1,168	1,220	280.06
Straits Settlements.....	211	182	532	706	955	352.61
Dutch East Indies.....	126	122	256	524	1,121	789.68
Philippine Islands.....	.....	.....	108	221	487	.....
Great Britain.....	429	303	659	485	64	-85.08
United States.....	3,140	3,175	2,919	4,191	4,942	57.39
Canada.....	277	122	246	464	561	102.53
Cape Colony and Natal.....	27	25	18	130	172	537.04
Australia.....	155	160	451	1,493	951	513.55
Other countries.....	1,042	683	337	609	587	-43.67
Total.....	6,724	5,989	6,984	12,104	14,474	115.26

PER CENT DISTRIBUTION.

China.....	5.77	7.66	6.84	10.40	13.68	.....
Kwantung.....	3.03	2.80	2.36	2.93	4.98	.....
Hongkong.....	6.02	5.86	4.27	4.12	4.92	.....
British India.....	4.77	4.01	7.59	9.65	8.42	.....
Straits Settlements.....	3.14	3.04	7.60	5.83	6.59	.....
Dutch East Indies.....	1.87	2.04	3.67	4.33	7.75	.....
Philippine Islands.....	.....	.....	1.53	1.83	3.36	.....
Great Britain.....	6.38	5.06	9.44	4.01	.44	.....
United States.....	46.70	53.01	41.81	34.63	34.13	.....
Canada.....	4.12	2.04	3.53	3.84	3.87	.....
Cape Colony and Natal.....	.40	.42	.27	1.07	1.19	.....
Australia.....	2.30	2.67	6.45	12.34	6.59	.....
All other countries.....	15.50	11.39	4.84	5.02	4.08	.....
Total pottery exports, value in thousands of yen.....	6,724	5,989	6,984	12,104	14,474	.....
Percentage pottery exports are of total export trade.....	1.05	1.00	.99	1.07	.90	.....

The most important export market for Japanese pottery products is the United States, which took, in 1913, 47 per cent of the total exports and, in 1917, 34 per cent. The exports to the Dutch East Indies and to Cape Colony and Natal showed the greatest percentages of increase, the exports to the first-named country increasing almost ninefold and to the last-named more than sixfold from 1913 to 1917. The exports to European countries, on the other hand, and especially to Great Britain, showed considerable decreases.

Glass and manufactures thereof.—Before the war, Japanese production of glassware was limited to cups, lamps, bottles, table utensils, flower vases, and other similar articles. The imports consisted mostly of plate and sheet glass. Since the outbreak of the war, the glass industry has undergone great development in Japan. This has taken place mainly in plate and sheet glass manufacture. New items of growing importance in the Japanese exports are hypodermic syringes, laboratory glassware, and watch crystals.

IMPORTS.

Imports have decreased, the needs of the domestic market are being met, and a considerable export trade is being developed. Plate glass was even sent to the Pacific coast of the United States, when railway congestion in this country made it difficult to transport the American product west of the Rocky Mountains. Thermos bottles are also being exported to the United States. Markets are being opened in British India, Australia, the South Sea Islands, and Great Britain. As indicating the extent to which Japan is gaining a hold on the British Indian market, it may be mentioned that according to the Indian returns the imports of glass and glassware from Japan in the year ending March 31, 1917, were valued at £600,000, or 60 per cent of the total imports of this class of goods, whereas in the year previous to the outbreak of the war, only £105,000, or 9 per cent of the total imports, were from Japan.

The figures of imports by totals and by countries are given in the following table:

Imports of glass and manufactures thereof, 1913-1917.

[Values in thousands of yen.]

	1913	1914	1915	1916	1917
Sheet and plate glass	2,921	2,137	709	1,653	1,802
All other glass and manufactures of	486	420	465	637	731
Total	3,407	2,557	1,174	2,290	2,533
Sheet and plate glass imported from—					
Belgium	2,424	1,747	44	12	13
Great Britain	325	299	445	435	753
United States	1	4	218	1,190	1,034
Other countries	171	87	2	16	2
Total	2,921	2,137	709	1,653	1,802

Before the war the imports came mainly from Belgium and consisted predominantly of sheet and plate glass. The imports of sheet and plate glass have decreased considerably, whereas the imports of other glass and manufactures thereof showed substantial increases in value. Imports of sheet and plate glass from Belgium have practically ceased, whereas those from Great Britain have shown some increase. The United States, however, which in 1913 shipped practically no sheet or plate glass to Japan, supplied this commodity in 1917 to the value of 1,034,000 yen, or about 60 per cent of the total Japanese imports.

EXPORTS.

The figures of exports by totals and by countries are given in the following table:

Exports of glass and manufactures thereof, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	* 1915	1916	1917	Per cent of increase, 1917 over 1913.
China.....	891	826	1,329	1,913	2,985	235.01
Kwantung.....	218	135	299	352	783	259.18
Hongkong.....	284	263	275	442	875	208.10
British India.....	996	828	1,947	2,991	4,357	337.45
Straits Settlements.....	357	240	388	624	555	55.46
Dutch East Indies.....	240	220	293	535	802	234.58
Philippine Islands.....	121	160	257	410	786	549.59
Great Britain.....	10	9	75	611	309	2,990.00
United States.....	6	9	25	153	804	13,300.00
Cape Colony and Natal.....	1	1	36	293	238	.....
Australia.....	104	161	803	1,520	1,163	1,018.26
All other countries.....	92	74	146	553	802	771.74
Total.....	3,319	2,926	5,873	10,397	14,460	335.67

The exports of glass and manufactures thereof increased over four-fold between 1913 and 1917. The most important increases were to British India, China, and Australia. The development of a substantial export trade with the United States and with Great Britain is also significant.

Exports of glass and manufactures thereof, 1913-1917.

[000 omitted.]

Kinds.	1913			1917		
	Quantity.	Value.	Per cent of total value.	Quantity.	Value.	Per cent of total value.
Window glass.....square feet.....		Yen.			Yen.	
Thermos bottles.....dozen.....	5,577	1,150	34.65	21,923	3,117	21.55
Other bottles and flasks.....dozen.....				52	486	3.36
Cups.....dozen.....				11,981	4,399	30.42
Tableware.....	1,115	306	9.22	3,033	1,697	11.73
Beads and balls.....		490	14.77		387	2.68
Looking glasses.....No.....	10,068	707	21.30	13,396	1,635	11.31
Spectacles.....	3,275	122	3.68	3,276	1,480	10.23
Other glass and manufactures of.....		544	16.38		1,192	1.33
Total.....		3,319			14,460	

The exports of window glass, which in 1913 were not important enough to receive separate enumeration, amounted in 1917 to 3,117,000 yen, or over 21 per cent of the total exports in the group. There were also great increases in the value of the exports of bottles and flasks and of cups.

ORES AND METALS (EXCLUSIVE OF METAL MANUFACTURES AND MACHINERY AND ENGINES).

(Group XIV of Imports and Group XIII of Exports.)

After textiles, the trade in ores and metals—as a group—is the most important, both from the import and the export points of view, as can be seen by comparing the following figures with others.

Trade in ores and metals, 1913-1917.

[000 omitted.]

Year.	Imports.		Exports.	
	Value.	Per cent of total import trade.	Value.	Per cent of total export trade.
1913.....	Yen. 72,663	9.06	Yen. 31,455	4.98
1914.....	53,799	9.03	31,049	5.35
1915.....	58,670	11.02	64,719	9.14
1916.....	150,828	19.94	120,432	10.68
1917.....	264,412	25.53	171,874	10.72

IMPORTS.

Ores and metals.—The Japanese classification of imports of ores and metals includes many items which might be classed as manufactured articles, such as wire, wire rope, pipes, tubes, etc. Of the total importation of ores and metals, however, iron and steel (including iron ore) represent by far the largest proportion, as shown in the following table.

Imports of ores and metals, 1913-1917.

Kind.	1913		1914		1915		1916		1917	
	1,000 yen.	Per cent of total.	1,000 yen.	Per cent of total.	1,000 yen.	Per cent of total.	1,000 yen.	Per cent of total.	1,000 yen.	Per cent of total.
Iron and steel.....	58,349	80.30	41,663	77.44	36,232	63.94	91,410	60.61	209,700	79.31
Other.....	14,314	19.70	12,136	22.56	22,438	36.06	59,418	39.39	54,712	20.69
Total.....	72,663		53,799		58,670		150,828		264,412	

The import of ores other than iron amounted in 1913 to but 270,000 yen. It increased in 1916 to 14,491,000 yen. Lead, zinc, and antimony were listed separately for the first time in 1917, and their value together with other ores (not iron) was 15,196,000 yen.

Imports of ores, 1913-1917.

[Values in thousands of yen.]

Kind.	1913	1914	1915	1916	1917
Iron.....	1,585	1,729	1,812	1,671	2,460
Lead.....					2,515
Zinc.....					7,823
Antimony.....					530
Other ores.....	270	574	2,065	14,491	4,327
Total.....	1,855	2,303	3,877	16,162	17,655

The increase in import of iron ore was an increase in value only. An increase in quantity may be looked for in the immediate future, however, as the Japanese are building a number of smelters for the reduction of Chinese ores. Lead is produced in Japan, but not in

sufficient quantity to supply certain growing industries; graphite is imported for the making of pencils. After the war had shut off imports of zinc, the high price became an inducement to the development of zinc refining in Japan. Since then there has been an increased importation of ore to supply the refineries. The domestic production of antimony has increased over 100 per cent since the war began, which accounts for the relatively small imports of that ore.

China has always been practically the sole source of Japan's imports of iron ore and has supplied a fair proportion of some of the other ores. The 1917 trade returns of Japan show that China is the principal country of origin for lead ore; nearly three-fourths of the zinc dust was imported from Australia and practically all the remainder from French Indo-China.

Imports of ores, by countries of origin, 1913-1917.

[Values in thousands of yen.]

Imported from—	1913	1914	1915	1916	1917
China.....	1,545	1,765	2,384	5,303	4,879
British India.....	260	319	149	687	423
French Indo-China.....			629	2,335	2,354
Russia, Asiatic.....		160	457	430	1,002
Australia.....			144	6,518	5,501
Other countries.....	50	59	114	889	3,496
Total.....	1,855	2,303	3,877	16,162	17,655

Iron and steel.—The Japanese imports of iron and steel may be divided into three classes, to wit: (A) Raw or partly fabricated, which includes pigs, ingots, blooms, billets, and slabs, as seen in Table I, page 99; (B) Rolled, cast, forged, or drawn iron, and steel products, Table II, page 100; and (C) Finished products such as pipes and tubes, ribbons, wire rope and twisted wire, waste, and other, Tables III and IV, page 101. The United States has become practically the exclusive source of the Japanese imports of these commodities, having displaced Great Britain, Germany and Belgium. In 1913 the United States supplied 0.22 per cent of class A, 7.54 per cent of class B, and about 52 per cent of class C. By 1917 these percentages had increased to 14.16, 91.82, and 89.40, respectively, and the combined value (not including ribbons, wire rope, and waste iron) from 6,424,000 yen, the figures of 1913, to 164,497,000 yen. The importations from the United States represented nearly 80 per cent of all the 1917 imports of iron and steel, the total being (exclusive of iron ore) 207,241,000 yen. The development of the ship building and machine construction industries in Japan during the last few years accounts for the increased importation of these materials.

The United States in 1917 supplied 13.52 per cent of the Japanese imports of pig iron. Great Britain supplied the bulk of the ferro-silicon and silicon-spiegeleisen, and the larger part of the ingots, blooms, billets, and slabs. The following tables show the trade in this class of iron and steel and the sources of origin for the period 1913-1917.

TABLE I.—Imports of iron and steel, 1913-1917.

CLASS A.—RAW OR PARTLY FABRICATED.

[Values in thousands of yen.]

BY ARTICLES.

Articles.	1913	1914	1915	1916	1917	Per cent increase or decrease (—), 1913-1917.
Pig iron.....	10,390	6,595	6,549	13,794	23,848	129.53
Spiegeleisen.....	109	45	45	89	190	74.31
Ferromanganese.....	515	131	423	583	195	-62.14
Ferro-silicon and silicon-spiegeleisen.....	170	191	248	459	152	-10.59
Malleable iron alloys.....	231	87	322	204	335	45.02
Ingots, blooms, billets, and slabs.....	816	891	328	1,522	515	-36.89
Keg steel and bamboo steel.....	147	105	36	67	1	-99.32
Other.....	8	2	.....	3	2	-75.00
Total.....	12,386	8,046	7,950	16,721	25,238	108.76

BY COUNTRY OF ORIGIN.

Imported from—						
China.....	2,054	1,940	2,890	5,031	9,347	355.06
Kwantung.....	.....	.....	64	2,422	4,573	.....
British India.....	2,931	1,047	1,233	3,613	5,318	81.44
Great Britain.....	4,786	2,782	2,551	3,647	1,388	-71.00
Sweden.....	1,256	1,274	703	436	977	-22.21
United States.....	27	229	155	1,512	3,574	13,137.03
Other countries.....	1,332	774	354	60	61	-95.42
Total.....	12,386	8,046	7,950	16,721	25,238	108.76
Total quantity, in thousands of kin.....	468,413	300,114	292,124	408,546	395,170	-15.64
Average value per kin.....	0.03	0.03	0.03	0.04	0.06	.....

PER CENT DISTRIBUTION.

Imported from—						
China.....	16.58	24.11	36.34	30.09	37.03	.....
Kwantung.....	.....	.....	.81	14.48	18.12	.....
British India.....	23.66	13.01	15.51	21.61	21.07	.....
Great Britain.....	38.64	34.58	32.08	21.81	5.50	.....
Sweden.....	10.14	15.82	8.84	2.61	3.87	.....
United States.....	.22	2.85	1.96	9.04	14.16	.....
Other countries.....	10.76	9.63	4.46	.36	.25	.....
Percentage imports of iron and steel (class A) are of total import trade.....	1.70	1.35	1.49	2.21	2.44	.....

The figures in the above tables show a decrease in imports of class A from all countries except the United States, China, and Kwantung. This decrease in the import has encouraged the development of the Japanese iron industry. The Japanese are planning to develop the Chinese mines in order to make themselves independent of the rest of the world. Some of the Chinese ore is to be smelted in China, and a part is to be imported and smelted in Japan.

TABLE II.—Imports of iron and steel, 1913-1917.

CLASS B.—ROLLED, CAST, FORGED, OR DRAWN (BARS, ROD, PLATE OR SHEET IRON, WIRE, BANDS, AND HOOPS).

BY ARTICLES.

[Values in thousands of yen.]

Articles.	1913	1914	1915	1916	1917	Per cent increase or decrease (-), 1913-1917.
Bars, rods, T angle and the like.....	13,840	9,866	5,602	22,508	46,369	235.04
Wire rods.....	568	412	1,081	4,076	6,931	1,120.25
Plate, or sheet iron, checkered (not coated with metals).....	72	53	46	123	320	344.44
Plate or sheet iron (not coated with metals).....	8,621	6,942	7,733	22,619	91,396	960.16
Plate or sheet iron, galvanized (corrugated).....	2,221	1,131	432	596	825	-62.86
Plate or sheet iron, galvanized (other).....	3,160	1,829	792	562	582	-81.58
Tinned iron sheets and tinned steel sheets (ordinary).....	4,603	4,010	4,792	10,084	11,726	154.75
Other plate and sheet iron.....	5	11	236	459	120	2,300.00
Iron wire (not coated with metals).....	572	283	383	626	1,303	127.80
Iron wire (galvanized).....	2,447	2,128	3,175	4,324	5,859	139.44
Iron (bands and hoops).....	295	301	159	594	1,243	321.35
Total.....	36,404	26,966	24,433	66,572	166,673	357.84
Total quantity, in thousands of kin.....	627,403	533,246	346,200	656,187	967,841	54.26
Average value per kin.....	0.06	0.05	0.07	0.10	0.17	183.33

BY COUNTRY OF ORIGIN.

Imported from—						
China.....			63	792	2,967	.....
Great Britain.....	17,433	11,991	11,092	20,315	6,403	-63.27
Germany.....	11,293	8,981	408	441	2	-99.98
Sweden.....	800	509	651	3,324	1,841	130.13
United States.....	2,744	2,532	11,767	41,069	153,043	5,477.40
Other countries.....	4,134	2,953	452	631	2,417	-41.54
Total.....	36,404	26,966	24,433	66,572	166,673	357.84

PER CENT DISTRIBUTION.

Imported from—						
China.....			0.26	1.19	1.78	.....
Great Britain.....	47.89	44.46	45.39	30.51	3.84	.....
Germany.....	31.02	33.31	1.67	.66	.....	.....
Sweden.....	2.20	1.89	2.66	4.99	1.11	.....
United States.....	7.54	9.39	48.17	61.70	91.82	.....
Other countries.....	11.35	10.95	1.85	.95	1.45	.....
Total.....	100.00	100.00	100.00	100.00	100.00	.....
Percentage imports of iron and steel (Class B) are of total import trade....	4.99	4.53	4.59	8.80	16.09	.....

The largest item in Class B, and one of which the imports have shown a very great increase, is plate or sheet iron, not coated with metals. The increase is accounted for by the development of shipbuilding. From the beginning of the war until the latter part of 1917 the number of yards which could turn out vessels of 1,000 tons and over increased from six or seven to thirty. The shipbuilding industry has been greatly embarrassed by the difficulty of obtaining material. The next item in importance is bars, rods, T angles, and the like, which supply the material for a number of industries—for instance, the manufacturing of machinery. Caution must be exercised in attaching significance to increases in figures of the value of

these imports. The per cent of increase in unit value of the whole list is given as 183.33, but this per cent could not be assumed to hold for any individual item. Tank plate increased in value by about 800 per cent during the war period. Wire rods increased in value to about the same extent.

There has been a falling off in imports from all countries except the United States and China. Imports from Germany have been completely shut off by the war, and those from Great Britain have decreased greatly. Imports from the United States have far more than made up for these losses. Attention should be directed again to the fact that Japanese interests are undertaking to make use of Chinese ores and are producing both iron and steel in China. This accounts for the increased import from China and forecasts further increases.

TABLE III.—Imports of iron pipes and tubes, elbows and joints, drawn, and "other" coated and not coated with base metals, 1918-1917.

CLASS C.—FINISHED PRODUCTS.

[Values in thousands of yen.]

Imported from—	1913	1914	1915	1916	1917	Per cent increase or decrease (—), 1913-1917
Germany.....	1,575	662	—	—	—	—
Great Britain.....	1,551	794	256	660	783	-49.52
United States.....	3,653	2,564	1,071	2,725	7,878	115.65
Other countries.....	155	110	53	50	145	-7.10
Total value.....	6,934	4,130	1,380	3,435	8,806	27.00
Total quantity in thousands of kin.....	75,935	48,966	15,113	28,092	45,277	-40.37
Average value per kin.....	0.09	0.08	0.09	0.12	0.19	111.11

The principal item comprised in this class is iron pipes and tubes. Less important items are ribbon steel, wire rope and twisted wire, waste or old iron, and other iron and steel not separately mentioned.

The United States was before the war the chief source of these items, but during the war she has become almost the sole source. Imports from the United States have not risen in quantity, however, and the falling off elsewhere has reduced the Japanese supply.

TABLE IV.—Imports of finished products other than pipes and tubes.

CLASS C.—FINISHED PRODUCTS.

[Values in thousands of yen.]

Product.	1913	1914	1915	1916	1917	Principal country of origin in 1917.
Ribbons.....	396	242	248	579	242	Sweden. Great Britain. United States.
Wire rope and twisted wire.....	407	369	119	183	170	
Waste or old.....	151	110	200	2,104	5,913	
Other iron and steel, not separately mentioned.....	86	70	90	145	198	Do.
Total.....	1,040	791	657	3,011	6,523	

Increase, 1917 compared with 1913, 527 per cent.

Metals other than iron and steel.—In normal times, lead, tin, zinc, and nickel were the principal metals (other than iron and steel) imported into Japan, but during the war the list has been greatly enlarged, owing to the creation of new Japanese industries and the expansion of those already established. The most striking example appears in the imports of brass and bronze in ingots and slabs, the importation of which increased from 228,000 yen in 1913 to 10,145,000 yen in 1917. In this connection it should be noted that the exports of brass manufactures from Japan also increased from 140,546 yen in 1913 to 6,620,198 yen in 1917. Other large increases appear in the importation of copper and aluminum, large amounts of which are used in the shipbuilding industry and for supplying the requirements of the Japanese army. The following tables show the development of the Japanese import trade of metals other than iron and steel during the period 1913-1917:

Imports of metals other than iron and steel, 1913-1917.

[Values in thousands of yen.]

Metal.	1913	1914	1915	1916	1917	Per cent increase or decrease (-), 1913-1917.
Platinum.....	526	209	186	728	319	-39.35
Aluminum.....	224	391	424	2,044	2,695	1,103.12
Copper:						
Ingots and slabs.....	62	16	169	1,733	3,583	5,679.03
Other.....	317	164	236	363	312	-1.58
Lead:						
Ingots and slabs.....	2,616	2,950	2,910	7,463	5,871	124.42
Other.....	201	169	353	559	289	43.78
Tin:						
Ingots and slabs.....	2,320	2,063	1,829	1,797	3,781	62.97
Other.....	57	22	6	22	15	-73.68
Zinc:						
Ingots, slabs, and grains.....	1,566	709	1,278	1,966	1,764	12.64
Other.....	1,825	1,160	1,859	1,317	1,415	-22.47
Nickel:						
Ingots and grains.....	1,421	1,593	1,601	2,009	1,032	-27.38
Other.....			87	189	155	
Mercury.....	325	190	433	1,279	929	185.85
Bismuth.....			350	413	251	
Antimony.....			6,655	7,033	5,146	
Brass and bronze:						
Ingots and slabs.....	228	145	1,070	14,354	10,145	4,349.56
Other.....	590	306	650	942	952	61.38
German silver.....	34	20	5	15	34	
Solder.....	134	142	73	224	249	85.82
Antifriction metals.....	77	62	62	23	50	-35.06
Precious metals and gilt or silver metals.....	34	16	7	16	22	-35.29
All other metals in ingots, slabs, and grains.....	1,043	1,052	35	94	229	-78.04
All other metals in bars, rods, sheets, plates, ribbons, bands, wires, pipes, and tubes.....	249	107	29	146	180	-27.71
All other metals in other form.....	110	74	65	198	98	10.91
Total.....	13,959	11,560	20,372	44,927	39,516	183.09

Imports of certain metals other than iron and steel (exclusive of ores), 1913-1917.

[000 omitted.]

Metal.	Unit of quantity.	Quantities (for principal items).					Per cent increase or decrease (-), 1913-1917.
		1913	1914	1915	1916	1917	
Platinum.....	Kin.....	313	114	103	231	107	-65.81
Aluminum.....	Kin.....	518	802	813	1,260	1,591	207.14
Copper:							
Ingots and slabs.....	Kin.....	194	54	579	4,198	8,567	4,315.98
Other.....	Kin.....	447	265	773	990	709	58.61
Lead:							
Ingots and slabs.....	Kin.....	24,790	25,830	24,210	34,673	26,674	7.60
Other.....	Kin.....	1,307	1,069	2,155	2,596	1,176	-10.02
Tin:							
Ingots and slabs.....	Kin.....	1,957	2,184	1,990	1,839	3,378	72.61
Zinc:							
Ingots, slabs, and grains.....	Kin.....	9,883	4,606	4,866	5,414	7,512	-23.99
Other.....	Kin.....	12,670	9,063	9,253	4,204	3,246	-74.38
Nickel:							
Ingots and grains.....	Kin.....	1,578	1,684	1,594	1,808	907	-42.62
Other.....	Kin.....			62	115	89	
Mercury.....	Kin.....	258	149	205	427	290	12.40
Bismuth.....	Kin.....			52	64	34	
Antimony.....	Kin.....			23,949	18,683	29,210	
Brass and bronze:							
Ingots and slabs.....	Kin.....	727	493	6,174	71,043	44,207	5,980.74
Other.....	Kin.....	1,456	678	2,716	3,386	2,466	69.37

Imports of selected metals other than iron and steel, 1913-1917.

Metal.	Unit of quantity.	Average value.					Per cent increase or decrease (-) average value 1913-1917.
		1913	1914	1915	1916	1917	
		Yen.	Yen.	Yen.	Yen.	Yen.	
Platinum.....	Kin.....	1,682.00	1,832.00	1,808.00	3,150.00	2,985.00	77.38
Aluminum.....	Kin.....	.43	.49	.52	1.62	1.69	293.02
Copper:							
Ingots and slabs.....	Kin.....	.32	.30	.29	.42	.42	31.25
Other.....	Kin.....	.71	.62	.30	.37	.44	-38.03
Lead:							
Ingots and slabs.....	Kin.....	.11	.11	.12	.22	.22	100.00
Other.....	Kin.....	.15	.16	.16	.22	.25	66.67
Tin:							
Ingots and slabs.....	Kin.....	1.19	.94	.92	.98	1.12	-5.88
Zinc:							
Ingots, slabs, and grains.....	Kin.....	.16	.15	.26	.36	.23	43.76
Other.....	Kin.....	.14	.13	.20	.31	.44	214.28
Nickel:							
Ingots and grains.....	Kin.....	.90	.95	1.00	1.11	1.14	26.67
Other.....	Kin.....			1.40	1.64	1.74	
Mercury.....	Kin.....	1.26	1.28	2.11	2.99	3.20	153.97
Bismuth.....	Kin.....			6.73	6.45	7.38	
Antimony.....	Kin.....			.28	.38	.18	
Brass and bronze:							
Ingots and slabs.....	Kin.....	.31	.29	.17	.20	.23	-25.81
Other.....	Kin.....	.40	.45	.24	.28	.38	-5.00

Imports of certain metals, by countries of origin, 1913-1917.

[Values in thousands of yen.]

Metal.	1913	1914	1915	1916	1917	Per cent increase or decrease (-), 1913-1917.
Tin (ingots and slabs) from—						
China.....	406	311	298	226	401	-1.23
Straits Settlements.....	1,617	1,667	1,430	1,465	2,329	81.14
Other countries.....	297	85	101	106	451	51.85
Total.....	2,320	2,063	1,829	1,797	3,781	62.97
Percentage supplied by Straits Settlements.....	69.70	80.80	78.13	81.52	76.47	.....
Nickel (ingots and grains) from—						
Great Britain.....	1,239	1,405	1,244	1,453	587	-52.62
United States.....		183	357	556	440	.....
Other countries.....	182	5			5	-97.26
Total.....	1,421	1,593	1,601	2,009	1,032	-27.38
Percentage supplied by the United States.....		11.49	22.30	27.69	42.64	.....
Antimony from—						
China.....			6,630	6,919	5,076	.....
Other countries.....			25	114	70	.....
Total.....			6,655	7,033	5,146	.....
Percentage supplied by China.....			99.62	98.38	98.64	.....
Brass and bronze (ingot and slab) from—						
China.....	12		851	13,745	9,545	79,441.67
Kwantung.....	81	51	138	471	393	385.19
Other countries.....	135	94	81	138	207	53.33
Total.....	228	145	1,070	14,354	10,145	4,349.56
Percentage supplied by China.....	5.26		79.53	95.76	94.09	.....

Imports of lead ingots and slabs, 1913-1917.

[Values in thousands of yen.]

Imported from—	1913	1914	1915	1916	1917	Per cent increase, 1917 over 1913.
China.....	70	46	139	524	193	175.71
United States.....	33	644	498	3,293	1,004	2,942.42
Australia.....	2,429	2,199	2,213	3,501	4,486	84.69
Other countries.....	84	61	60	145	188	123.81
Total value.....	2,616	2,950	2,910	7,463	5,871	124.43
Total quantity in thousands of kin.....	24,790	25,830	24,210	34,673	26,674	7.60
Average value per kin.....	.11	.11	.12	.22	.22	.....
Percentage supplied by the United States.....	1.26	21.83	17.17	44.12	17.10	.....

EXPORTS.

Ores.—Prior to the war the only ore exported from Japan was zinc, the exports of which amounted in 1913 to 943,271 yen, of which about 86 per cent was shipped to Belgium. Since 1915 the exports of zinc ore have become insignificant, owing to the fact that the Japanese are refining their own ores, but in 1915 manganese ore was exported to the value of 1,939,000 yen. The manganese exports increased in 1916 to 2,380,209 yen, and dropped in 1917 to 588,425 yen. In 1917 for the first time are shown exports of tungsten ore, amounting in value to 1,709,649 yen. This tungsten is mainly of Korean origin. The war demand has been so great that hitherto undeveloped sources

are being worked in many parts of the world, as well as in Japan. In 1916 the bulk of the manganese ore was exported to the United States (1,863,000 yen out of a total export of 2,380,000 yen), and in 1917 the exports of tungsten to the United States amounted to 1,484,086 yen, or 86.87 per cent of the total tungsten exports. France, Asiatic Russia, and Great Britain come next in the order named.

Metals.—Japan has long been an exporter on a large scale of copper in ingots and slabs. Copper exports in 1913 amounted in value to 28,184,000 yen; nearly 90 per cent of the total exports of ores and metals (31,455,000 yen) during that year. During the war, however, Japan has been exporting large quantities of other metals, and while copper in ingots and slabs still plays an important part, it represented in 1917 only a little over 50 per cent of all ores and metals exported.

Japan had never before the war exported iron to any extent, but in 1917 her exports of iron in various forms amounted to 12,650,011 yen, as compared with 67,410 yen in 1913.

Japan has become, beginning with 1916, an exporter of a number of ores and metals, some of which were heretofore and are still imported by her from foreign countries. Among these appear tungsten ore, iron, tin foils, zinc in ingots and slabs, and antimony. The following tables show in some detail the great changes that have taken place in Japan's export trade of ores and metals:

Exports of ores and metals, 1913-1917.

[Values in thousands of yen.]

	1913	1914	1915	1916	1917	Per cent increase or decrease (—), 1913-1917.
Ores:						
Zinc.....	943	470	361	183	27	—97.14
Tungsten.....					1,710	
Manganese.....					588	
Other.....	1	119	938	2,380	763	
Metals:						
Iron—						
Ingots and slabs.....					794	
Bars, rods, plates, and sheets.....					5,023	
Wire ropes.....					3,634	
Pipes and tubes.....	67	48	199	930	2,040	2,944.78
Other.....	332	323	253	355	1,158	248.79
Copper—						
Ingots and slabs.....	28,184	27,197	44,264	66,119	87,495	210.44
Plates and sheets.....	240	1,029	1,446	936	1,365	468.75
Wire.....	182	242	453	2,954	4,378	2,305.50
Other.....					3,050	
Tin foils.....					347	
Zinc (Ingots and slabs).....				19,251	20,948	
Antimony.....						
Brass and yellow metals:	468	1,117	7,707	9,477	8,441	1,703.63
Bars and rods.....					4,545	
Plates and sheets.....	213	246	1,660	8,056	18,769	8,711.73
Other.....	109	107	256	406	3,377	2,998.16
All other metals.....	718	761	7,182	9,385	8,422	377.93
Total.....	31,455	31,649	64,719	120,432	171,874	446.41

Exports of ores and metals, 1913-1917—Continued.

[000 omitted.]

	Unit of quantity.	1913	1914	1915	1916	1917	Per cent increase or decrease (-) 1913-1917.
Ores:							
Zinc.....	Picul.....	456	238	102	38	3	-99.34
Tungsten.....	Picul.....					12	
Iron:							
Ingots and slabs.....	Kin.....					4,746	
Bars, rods, plates, and sheets.....	Kin.....					23,868	
Wire ropes.....	Kin.....					11,319	
Pipes and tubes.....	Kin.....	1,047	642	2,391	7,517	14,051	1,242.02
Other.....	Kin.....	15,154	18,012	10,655	6,962	6,643	-58.18
Copper:							
Ingots and slabs.....	Kin.....	70,227	73,540	95,684	98,950	120,322	71.33
Plates and sheets.....	Kin.....	536	2,500	2,735	1,256	1,623	202.80
Wire.....	Kin.....	378	505	879	4,191	5,805	1,435.71
Other.....	Kin.....					3,581	
Tin foils:	Kin.....					781	
Zinc (ingots and slabs).....	Kin.....				38,690	61,390	
Antimony.....	Kin.....	2,671	7,179	14,407	14,984	23,788	790.60
Brass and yellow metal:							
Bars and rods.....	Kin.....					5,586	
Plates and sheets.....	Kin.....	636	636	3,041	10,212	20,440	3,713.43
Other.....	Kin.....	275	284	536	530	4,687	1,604.36

AVERAGE VALUES.

		Yen.	Yen.	Yen.	Yen.	Yen.	
Zinc ore.....	Picul.....	2.07	1.99	3.54	5.08	9.00	334.78
Iron pipes and tubes.....	Kin.....	0.06	0.07	0.08	0.12	0.27	350.00
Copper in ingots and slabs.....	Kin.....	0.40	0.37	0.45	0.67	0.88	120.00
Copper plates and sheets.....	Kin.....	0.45	0.41	0.53	0.75	0.84	86.67
Copper wire.....	Kin.....	0.48	0.48	0.52	0.70	0.76	58.33
Antimony.....	Kin.....	0.18	0.16	0.54	0.63	0.35	94.44
Brass plates and sheets.....	Kin.....	0.40	0.39	0.55	0.79	0.92	130.00

Exports of copper (ingot and slab), 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917
China.....	9,401	9,227	1,015	1,630	6,364
Kwantung.....	135	103	128	99	116
British India.....	1,415	1,649	852	98	6,032
Russia, Asiatic.....		2,751	24,868	39,294	11,913
Great Britain.....	5,208	4,053	9,064	18,329	30,842
France.....	3,956	2,224	2,870	5,021	22,196
United States.....	3,304	2,903	5,383	3,054	3,203
Other countries.....	4,785	4,237	86	94	8,029
Total.....	28,184	27,197	44,264	86,119	87,495

PER CENT DISTRIBUTION.

China.....	33.35	33.92	2.29	2.47	7.27
Kwantung.....	.48	.37	.28	.15	.13
British India.....	5.03	6.08	1.92	.15	5.75
Asiatic Russia.....		10.11	56.18	59.43	13.62
Great Britain.....	18.45	14.90	20.47	25.45	35.02
France.....	14.03	8.18	6.49	7.59	25.37
United States.....	11.72	10.67	12.16	4.62	3.66
Other countries.....	16.91	15.77	.21	.14	9.18
Total.....	100.00	100.00	100.00	100.00	100.00
Total quantity in thousands of kin.....	70,227	73,540	95,684	98,950	120,322
Average value per kin.....	.40	.37	.45	.67	.73
Per cent exports of copper ingot and slab are of total export trade.....	4.46	4.60	6.25	6.86	5.46

Exports of zinc (ingot and slab), 1916 and 1917.¹

[Value in thousands of yen.]

Exported to—	1916	1917
British India.....	287	1,196
Asiatic Russia.....	11,328	3,899
Great Britain.....	5,373	10,977
France.....	2,235	3,566
Other countries.....	28	1,310
Total value.....	19,251	20,948

PER CENT DISTRIBUTION.

British India.....	1.49	5.71
Asiatic Russia.....	58.84	18.61
Great Britain.....	27.91	52.40
France.....	11.61	17.03
Other countries.....	.15	6.25
Total.....	100.00	100.00
Total quantity exported in thousands of kin.....	38,690	61,390
Average value per kin.....	.50	.34
Percentage exports of zinc are of total exports.....	1.71	1.31

¹ No exports of zinc recorded for the years 1913-1915.

METAL MANUFACTURES.

(Group XV of Imports and Group XIV of Exports.)

Up to and including 1914 the value of the metal manufactures imported was many times larger than that of the exports, but beginning with 1915 the exports have largely exceeded the imports, as shown by the following figures:

Trade in metal manufactures, 1913-1917.

[Values in thousands of yen.]

Year.	Imports.		Exports.	
	Value.	Per cent of total import trade.	Value.	Per cent of total export trade.
1913.....	15,345	2.10	3,585	0.57
1914.....	8,468	1.42	3,490	.59
1915.....	4,119	.77	7,760	1.10
1916.....	10,665	1.41	16,600	1.47
1917.....	18,124	1.75	29,381	1.83

Increase in imports, 1917 over 1913, 18.10 per cent.

Increase in exports, 1917 over 1913, 719.55 per cent.

IMPORTS.

The imports of metal manufactures have declined in quantity, both absolutely and relatively, while the exports have increased enormously. The change is not particularly an evidence of Japan's industrial progress. It rather indicates the difficulty experienced by Japan in obtaining these commodities. The other oriental countries have also been shut off from the usual sources of supply, and Japan has contributed to their relief.

The most important items in the import trade in Group XV are construction materials and iron nails, and of these the United States now supplies practically the entire amount imported. The United States supplied in 1917 no less than 98.10 per cent of Japan's imports of nails, and 96.05 per cent of the imports of construction materials. The following tables show the trend of the import trade in these articles during the period 1913-1917:

Imports of iron nails (not coated with metal), 1913-1917.

[Values in thousands of yen.]

Imported from—	1913	1914	1915	1916	1917
Germany.....	648	288	-----	6	-----
Belgium.....	128	91	1	6	-----
Great Britain.....	75	11	40	179	25
United States.....	498	92	410	3,895	2,482
Other countries.....	21	26	87	117	23
Total value.....	1,370	508	538	4,203	2,530
Total quantity in thousands of kin.....	22,761	8,712	5,850	35,646	15,721
Average value per kin.....	0.06	0.06	0.09	0.12	0.16

Increase in total value, 1917 compared with 1913, 84.67 per cent.

Decrease in quantity, 1917 compared with 1913, 30.93 per cent.

Increase in unit value, 1917 compared with 1913, 166.67 per cent.

Imports of construction materials, 1913-1917.

(Rails and other metal materials for railways; metal posts and materials for electric lines; materials for bridges, vessels, docks, etc.; gas holders, tanks for liquids and parts thereof.)

[Values in thousands of yen.]

Imported from—	1913	1914	1915	1916	1917	Per cent increase or decrease (-), 1913-1917.
Great Britain.....	1,443	313	86	90	86	- 94.04
United States.....	3,496	2,027	677	799	9,317	166.60
Other countries.....	2,747	915	59	164	297	- 89.19
Total value.....	7,686	3,258	822	1,073	9,700	26.20
Per cent supplied by the United States..	45.49	62.22	82.36	74.46	96.05	-----

Among the imports of construction materials, rails for railways constituted in the 1913 imports 53 per cent, and in the 1917 imports 96.05 per cent.

The balance of the Japanese imports of metal manufactures consists of articles made of iron, such as screws, bolts, rivets, anchors, chains, cocks and valves; of insulated electric wires; cutlery, needles and pins, pens, typewriters and other manufactures of various metals, which could be classed mostly as hardware. The importation of individual articles has fluctuated decidedly during the war, and the total value during the last five years has been as follows: 1913, 5,990,000 yen; 1914, 5,702,000 yen; 1915, 2,759,000 yen; 1916, 4,389,000 yen; 1917, 5,894,000 yen. The imports of the individual articles are shown in the following table:

Imports of metal manufactures other than nails and construction materials, 1913-1917.

[Values in thousands of yen.]

	1913	1914	1915	1916	1917
Iron screws.....	193	247	220	433	697
Iron bolts, nuts and washers.....	462	281	79	186	233
Iron rivets.....	125	71	47	179	263
Other screws, bolts, etc.....	248	166	75	44	260
Insulated electric wires:					
Armored with metals—					
Submarine telegraphic or telephonic cables ..	51	926	309	1,295	-----
Other.....	1,861	374	108	2	3
Other insulated electric wires.....	150	69	5	22	48
Iron anchors.....	41	55	15	200	327
Iron chains.....	535	451	209	960	915
Iron cocks and valves.....	143	115	40	69	146
Other cocks and valves.....	23	21	8	16	16
Hinges, hat hooks and metal fittings, for doors, win-					
dows, furniture, etc.....	73	70	26	42	92
Mechanics' tools, agricultural implements and parts					
thereof.....	497	323	184	246	648
Drills, bits, reamers and screw tops.....	174	92	73	232	220
Cutlery.....	53	50	19	24	36
Capsules for bottles.....	45	28	34	38	15
Needles and pins.....	105	104	39	93	89
Pens (except gold).....	196	150	144	118	81
Stoves and radiators.....	132	93	39	23	89
Typewriters and parts thereof.....	78	62	52	141	254
Foreign coins except gold and silver.....	1	8	489	165	-----
Manufactures of precious metals.....	74	139	77	59	146
Manufactures of copper, brass and bronze.....	161	88	50	77	92
Iron manufactures.....	812	576	398	701	1,194
All other metal manufactures.....	57	43	21	24	30
Total.....	6,290	4,702	2,759	5,389	5,894
Nails.....	1,370	508	538	4,203	2,530
Construction materials.....	7,686	3,258	822	1,073	9,700
Total imports of metal manufactures.....	15,346	8,458	4,119	10,665	18,124

EXPORTS.

The enormous increase in the exports of metal manufactures from Japan is due mainly to increased exportation of insulated electric wire, brass manufactures, and iron manufactures. The Japanese classification of exports does not go further than the general designations hereinafter mentioned; hence it is impossible to show by name what are the brass and iron articles exported. However, the following figures give a fair idea of the classes of goods manufactured and the countries to which they have been exported in 1917.

Exports of metal manufactures, 1913-1917.

[Values in thousands of yen.]

	1913	1914	1915	1916	1917	Principal countries of destination in 1917, in order named.
Insulated electric wire.....	251	394	900	1,126	3,119	China, Kwantung, British India.
Implements and tools of farmers and mechanics.	114	117	203	307	490	China, Kwantung, United States.
Iron pans and iron rice kettles.	36	22	65	345	307	Straits Settlements, China, Kwantung.
Copper manufactures.....	44	49	379	140	237	China, British India.
Brass manufactures.....	141	135	458	2,897	6,620	Asiatic Russia, Dutch East Indies, British India.
Bronze manufactures.....	445	286	172	267	261	United States, British India.
Antimony manufactures.....	999	636	817	961	619	Great Britain, Australia, British India.
Aluminum manufactures.....	125	42	547	230	871	Dutch East Indies, China, Hongkong.
Nickel-metal manufactures.					427	British India, China.
Iron manufactures:						
Enameled.....					2,702	China, British India.
Cans, kerosene-oil.....					356	Kwantung, Asiatic Russia.
Other.....	689	1,169	2,998	9,462	12,050	China, Kwantung, British India, Asiatic Russia.
All other manufactures.....	741	640	1,221	865	422	Asiatic Russia, and China.
Total.....	3,585	3,490	7,761	16,600	29,381	

The conspicuous development shown here is the great increase of exports of insulated electric wire and of brass manufactures, which is in part a consequence of the establishment of a large Japanese-American electrical manufacturing company in Japan. The brass manufactures have been exported to Russia for war purposes.

CLOCKS AND WATCHES—SCIENTIFIC INSTRUMENTS, ETC.—VEHICLES AND VESSELS—MACHINERY AND ENGINES.

(Group XVI of imports and Group XV of Exports.)

To show the full development of the Japanese trade in the articles named above it is necessary to treat each class separately, and for this reason the four classes are entered separately in the following tables:

Imports and exports of clocks, scientific instruments, etc., 1913-1917.

[Values in thousands of yen.]

	1913	1914	1915	1916	1917	Per cent increase or decrease (—), 1913-1917.
IMPORTS.						
Clocks and watches, and parts thereof.	1,227	953	784	1,341	2,182	77.83
Scientific instruments, etc.	2,665	1,707	997	1,292	2,037	-23.57
Vehicles and vessels	10,388	6,802	3,863	12,388	13,071	25.83
Machinery and parts of	36,762	24,942	9,064	16,271	29,838	-18.84
Total	51,042	34,404	14,708	31,292	47,128	-7.67
Per centage imports of clocks and watches, etc., are of total import trade.	7.00	5.78	2.77	4.14	4.55	.....
EXPORTS.						
Clocks	903	804	1,035	1,186	1,312	32.12
Scientific and musical instruments	527	536	796	2,037	2,717	415.56
Vehicles and vessels	2,406	2,229	5,252	23,282	104,522	4,244.22
Machinery and parts of	2,522	1,691	2,948	8,438	9,194	264.55
Total	6,448	5,260	10,031	34,943	117,745	1,726.07
Percentage exports of clocks and watches, etc., are of total export trade.	1.02	0.88	1.42	3.10	7.35	.....

Clocks and watches and parts thereof.—Most of the manufacturers of clocks and watches in Japan merely make parts, and the parts are put together by home and cottage industry. The imports consist of certain parts—such as springs—and watches. The export trade consists of "clocks, hanging and standing."

The increased importation of watches, like the increased home production, is undoubtedly due to the increased purchasing power of the manufacturing population. Switzerland and the United States have always supplied about 90 per cent of the Japanese imports of watches, the share of the two countries in the 1913 imports having been 57 per cent and 32 per cent, respectively. The proportion has changed slightly in favor of the United States since the war began.

Almost all of the exports of clocks from Japan prior to 1915 went to China and Hongkong, but now they go to nearly all parts of the world. The United States takes but a small amount, 1,200 yen in 1917. Great Britain, on the other hand, has been taking since 1915 nearly one-third of the entire Japanese export of clocks.

Trade in clocks and watches and parts thereof, 1913-1917.

Year.	Imports.	Exports.
	Yen.	Yen.
1913.....	1,227,000	993,000
1914.....	953,000	804,000
1915.....	784,000	1,035,000
1916.....	1,341,000	1,186,000
1917.....	2,182,000	1,312,000

Scientific instruments.—Up to and including 1915 the imports of scientific instruments into Japan have always exceeded the exports of similar articles from that country, and even in 1916 and 1917 the exports exceeded the imports by about 800,000 yen and 700,000 yen, respectively. In normal times, e. g. in 1913, the principal items imported under this classification were, in the order of their importation, philosophical instruments, wattmeters, amperemeters and volt-meters, gas and water meters, accumulators, surgical instruments, and phonographs. In 1917 wattmeters held first place, followed by philosophical and surgical instruments and by the different kinds of meters above named.

Before the war Japan imported her scientific instruments from Germany, Great Britain, and the United States. The share of the United States in 1913 was 24 per cent, but in 1917 it had grown to over 69 per cent. The principal articles imported from the United States were meters and philosophical and surgical instruments.

Recently the production of scientific instruments in Japan has been increasing and this is one of the lines of manufacture which may be expected to develop. The work is done largely by the hand-labor, piece-work system, traditional in Japanese industry. Modern drop forging is, however, rapidly replacing more primitive methods in the making of surgical instruments.

The Japanese exports of scientific instruments have increased in value, as the table shows, and the market has extended. Up to 1916 the exports were practically confined to Far Eastern countries, mainly China, the Straits Settlements, and British India, but shipments of surgical instruments were made in 1916 and 1917 to the United States, Great Britain, and France. Considerable progress has been made in the production of drawing and surveying instruments, phonographs, phonograph needles and records.

Exports of scientific instruments, 1913-1917.

[Values in thousands of yen.]

	1913	1914	1915	1916	1917	Per cent increase, 1917 over 1913.
Surgical.....	132	221	212	820	1,129	755.30
Philosophical.....	50	45	49	351	467	834.00
Musical.....	44	35	32	37	621	1,311.36
Other.....	301	235	503	829	500	66.11
Total.....	527	536	796	2,037	2,717	415.56

Vehicles and vessels.—The following table shows all the imports entered under this heading:

Imports of vehicles and vessels, 1913-1917.

[Values in thousands of yen.]

	1913	1914	1915	1916	1917	Per cent increase or decrease (-), 1913-1917.
Railway carriages and parts thereof.....	2,075	1,981	619	299	2,219	6.94
Automobiles.....	605	241	71	388	1,570	159.50
Automobile parts.....	505	258	96	327	1,098	117.43
Cycles.....	835	391	146	92	123	-85.27
Parts of cycles:						
Tires.....	1,039	432	81	21	5	-99.52
Other parts.....	1,299	645	167	386	587	-54.81
Steam vessels:						
Not exceeding 10 years of age.....	1,793	2,230	1,883	229	423	-76.41
Other.....	2,207	612	752	10,586	6,680	202.67
All other vehicles, parts of, and vessels..	30	12	48	60	366	1,120.00
Total.....	10,388	6,802	3,863	12,388	13,071	25.83

Number of automobiles and steam vessels imported, 1913-1917.

	1913	1914	1915	1916	1917
Automobiles.....		94	30	218	860
Steam vessels:					
Not exceeding 10 years of age.....	5	7	3	2	6
Other.....	15	6	7	13	17

The use of automobiles is increasing in Japan, but there is little manufacture. Hence the importation of cars and parts is increasing. The United States leads in this trade, with Great Britain and Italy next in importance. In 1917 the United States supplied 851 automobiles, valued at 1,548,804 yen, out of the total of 860 automobiles, valued at 1,569,640 yen, and she also supplied the bulk of the automobile parts. Great Britain has always led in supplying railway carriages, bicycles, and vessels. Japan is becoming a producer of bicycles and tires, and the import of these articles is falling off.

The exports from Japan of vehicles and vessels are given in full in the following table:

Exports of vehicles and vessels, 1913-1917.

[Values in thousands of yen.]

	1913	1914	1915	1916	1917	Per cent increase or decrease (-), 1913-1917.
Vehicles and parts thereof:						
Jinrickshaw.....	306	225	259	341	290	5.23
Cycles.....					168	
Gum tires.....		1,086	3,413	4,076	4,084	
Other vehicles and parts of.....	410	185	555	1,614	2,271	453.90
Vessels:						
Steam ¹	1,669	711	399	17,179	97,179	5,752.55
Other.....	21	22	626	42	30	42.86
Total.....	2,406	2,229	5,252	23,252	104,522	4,244.22

¹ Number of vessels: 1913, 4; 1914, 10; 1915, 7; 1916, 67; 1917, 79.

Japan now exports rubber tires to the value of over 4,000,000 yen. The exports in 1916 were shipped to China, the Dutch East Indies, the Straits Settlements, and Great Britain in the order named. In normal times China was also the principal buyer of the vessels built in Japan, but Great Britain, France, and the United States have lately been buying Japanese vessels. Many of the vessels which Japan has sold were old, foreign-built vessels, but they have brought high prices.

Machinery and engines.—The industrialization of Japan during recent years has called for large importations of machinery. At the same time importation has become increasingly difficult because of the lack of shipping and the preoccupation of the European exporters, and since 1917 of the exporters of the United States, with the war. Japan is continually expanding her own manufacture of machines, but the development of machine manufacturing necessarily proceeds slowly. These facts account for the decrease in Japanese imports of machinery, and for the increase in exports. The export trade is not large in the aggregate, but it is significant. Machines for the textile industry hold first place among the imports, followed in importance by metal and woodworking machinery. Thirty-eight different kinds of machines, engines, and parts thereof are entered in the import returns. The export returns show only five items, of which electrical machinery is the most important, followed by spinning and weaving machines, lathes, telephones, printing machines, and "other machinery and accessories thereof." These were exported mainly to China and to other Far Eastern countries.

The total trade in machinery and engines for the period 1913–1917 was as follows:

Trade in machinery and engines, 1913–1917.

[Values in thousands of yen.]

Year.	Imports.	Exports.
1913.....	36,762	2,522
1914.....	24,942	1,690
1915.....	9,064	2,948
1916.....	16,271	8,468
1917.....	29,838	9,194

Imports of machinery and engines, 1913–1917.

[Values in thousands of yen.]

Imported from—	1913	1914	1915	1916	1917
Great Britain.....	17,067	13,440	5,043	7,018	10,384
France.....	243	248	109	612	338
Germany.....	9,239	5,643	508	104	107
Sweden.....	292	320	402	310	1,176
United States.....	9,056	5,035	2,940	7,880	17,033
Other countries.....	865	262	65	347	800
Total.....	36,762	24,948	9,067	16,271	29,838

Imports of machinery and engines, 1913-1917—Continued.

PER CENT DISTRIBUTION.

Imported from—	1913	1914	1915	1916	1917
Great Britain.....	46.43	53.86	55.61	43.14	34.80
France.....	66	99	1.20	3.76	1.13
Germany.....	25.13	22.62	5.61	.64	.36
Sweden.....	.79	1.28	4.43	1.90	3.94
United States.....	24.63	20.19	32.43	48.43	57.08
Other countries.....	2.36	1.06	.72	2.13	2.69
Total.....	100.00	100.00	100.00	100.00	100.00
Percent imports of machinery and engines are of total import trade.....	5.04	4.19	1.70	2.15	2.88

The above tables show an increase in imports from the United States, 1917 over 1913, of 93.90 per cent—seventeen and one-half millions against nine millions. Imports from Great Britain for the two years almost reverse these figures—less than ten millions against seventeen millions. Since the first year of the war Japan has been unable to obtain spinning and certain other machinery from Great Britain and has placed her orders in the United States.

MISCELLANEOUS ARTICLES.

(Group XVII of Imports and Group XVI of Exports.)

IMPORTS.

The imports of miscellaneous articles in 1917 were valued at 77,399,000 yen. The increase from the 39,499,000 yen of 1913 is accounted for almost entirely by the growth in the imports of one item, oil cake (used as a fertilizer). The remainder of the imports in this group are chiefly raw materials, of which the most important are copra or dried coconut meat and woods such as teak and sandalwood, pine, fir, and cedar. The imports of copra, used in the production of coconut oil, have increased more rapidly than those of any other of the items in this group, amounting in 1917 to 8,251,000 yen compared with 446,000 yen in 1913. It is obtained principally from the Philippine Islands.

The following table shows the imports of miscellaneous articles, 1913-1917:

Imports of "miscellaneous articles," 1913-1917.

(Values in thousands of yen.)

Article.	1913	1914	1915	1916	1917	Per cent increase or decrease (-), 1913-1917.
Woods.....	2,618	1,491	1,367	2,308	4,824	80.44
Copra.....	446	524	644	3,365	8,251	1,750.00
Packing mats.....	639	516	404	500	775	21.28
Rubber manufactures.....	846	618	444	803	971	14.78
Films.....	429	433	370	585	769	79.25
Wheat bran.....	1,552	586	740	400	736	-52.58
Oil cake.....	39,499	34,865	36,127	37,547	55,968	41.69
Other manures.....	1,969	1,598	1,005	1,069	1,591	18.14
Other articles.....	3,763	3,514	1,646	2,984	3,514	-4.52
Total.....	51,761	43,145	42,747	49,561	77,399	49.53

The imports of oil cake, mostly bean oil cake from China and Kwantung, are shown in the following table:

Imports of oil cake (fertilizers), 1913-1917.

[Values in thousands of yen.]

Imported from—	1913	1914	1915	1916	1917	Per cent increase, 1917 over 1913.
China.....	13,689	11,835	11,635	10,783	14,793	8.06
Kwantung.....	20,066	18,639	18,001	19,543	29,175	45.38
British India.....	1,914	1,269	512	667	801	.....
Russia, Asiatic.....	118	344	1,712	665	1,635	1,285.59
Temporary warehouses.....	3,530	2,758	4,267	5,889	9,564	170.93
Other countries.....	182	19	.....	.....	.....	.....
Total.....	39,499	34,864	36,127	37,547	55,968	41.69
Total quantity in thousands of piculs.....	14,367	12,402	13,847	14,041	17,919	24.72
Average value per picul.....	2.75	2.81	2.61	2.67	3.12	13.45

EXPORTS.

The articles in this group are predominantly manufactured goods. In 1917, out of a total value of 78,919,000 yen only 948,000 yen (1.2 per cent) consisted of raw materials, mostly plants, shrubs, and lily bulbs, and 17,095,000 yen (21.6 per cent) represented semi-manufactures, mainly wood and fertilizers.

The principal items in the group and the value of the exports of each for the years 1913-1917 are shown in the following table:

Exports of miscellaneous articles, 1913-1917.

[Values in thousands of yen.]

	1913	1914	1915	1916	1917	Per cent increase or decrease (-), 1913-1917.
Plaits for hats.....	15,691	14,355	14,132	16,318	18,171	15.81
Wood.....	10,043	10,674	9,210	12,318	14,785	47.22
Mats and matting for floors (Hanagoza).....	4,054	2,814	2,281	2,863	2,180	-46.23
Bamboo and basket ware.....	2,629	2,104	2,175	3,185	2,290	-12.89
Umbrellas and parasols, European.....	1,831	1,730	1,526	2,186	2,305	25.94
Umbrellas and parasols, other, and handles.....	692	600	527	814	734	6.07
Wood manufactures.....	889	826	1,104	1,854	1,755	97.41
Lacquered wares.....	1,134	883	566	1,103	1,049	-7.50
Brushes.....	2,284	2,695	3,872	5,302	6,075	165.98
Lamps, lanterns, and parts of.....	1,544	1,382	2,394	5,234	8,314	438.47
Bags, trunks, etc.....	474	415	437	1,221	1,321	178.69
Fans.....	1,137	778	581	699	591	-48.02
Toys.....	2,490	2,592	4,533	7,640	8,410	237.75
Manures.....	555	769	2,579	4,128	2,310	316.22
All other articles.....	6,735	4,837	7,490	10,609	8,629	28.12
Total.....	52,182	47,504	53,407	75,474	78,919	51.24

Plaits and braids for hats, the most important of the miscellaneous items, are woven from wheat straw, wooden shavings, and hemp fiber. They are sold principally to the United States and Great Britain. The steadily increasing share of Great Britain in the exports of Japanese braids and plaits is shown by the following table:

Exports of braids (plaits) for hats, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917	Per cent increase or decrease (—), 1913-1917.
Great Britain.....	4,075	4,588	5,215	5,827	8,679	112.98
France.....	2,198	1,204	1,359	1,916	766	65.15
United States.....	6,769	7,111	7,052	7,870	7,807	15.33
Germany.....	1,538	886	75	150	133	.....
Canada.....	44	79	75	150	133	.....
Australia.....	189	114	207	222	564	198.41
Other countries.....	878	373	224	333	222	-75.92
Total.....	15,691	14,355	14,132	16,318	18,171	15.81

PER CENT DISTRIBUTION.

Great Britain.....	25.97	31.96	36.90	35.71	47.76	.....
France.....	14.00	8.39	9.62	11.74	4.22	.....
United States.....	43.14	49.54	49.90	48.22	42.96	.....
Germany.....	9.80	6.17	.....	.....	.....	.....
Canada.....	29	.55	.53	.92	.73	.....
Australia.....	1.20	.79	1.46	1.36	3.10	.....
Other countries.....	5.60	2.60	1.59	2.05	1.23	.....
Total.....	100.00	100.00	100.00	100.00	100.00	.....

Japan is a well-forested country, and exports of wood and of manufactures of wood have been important. The items included under exports of wood are railway sleepers, boards for tea chests, and materials for matches and match boxes. There has been considerable increase in the value of exports of wood during the war, principally to British India and the Straits Settlements.

Exports of wood, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917	Per cent increase or decrease (—), 1913-1917.
China.....	3,748	4,633	3,124	3,869	3,690	2.41
Kwantung.....	1,028	1,120	718	777	1,267	23.25
Hongkong.....	90	90	146	72	168	833.33
British India.....	982	1,290	1,964	2,791	4,942	403.26
Straits Settlements.....	171	296	784	1,535	2,699	1,478.36
Dutch East Indies.....	6	20	166	391	774	12,800.00
Great Britain.....	297	271	822	463	313	6.39
France.....	186	190	41	22	.....	.....
United States.....	1,214	875	771	790	37	-96.95
Australia.....	495	487	524	1,329	417	-15.76
Other countries.....	1,826	1,502	150	289	478	-76.62
Total.....	10,043	10,674	9,210	12,318	14,785	47.22

¹ Exports to Germany, Belgium, and Egypt.

There has been a substantial increase in the exports of brushes during the war, particularly to Great Britain and the United States. Tooth brushes constitute the largest item among the brush exports.

Toys, principally cheap dolls, are exported to the United States and Australia as well as to Oriental countries. In the United States

the Japanese toys have shown great increases since 1913. In 1914, of the total United States imports of toys, including dolls valued at \$9,084,019, Germany supplied \$7,718,854. The German products have now been replaced to some extent by imports from Japan.

Exports of toys, 1913-1917.

[Values in thousands of yen.]

Exported to—	1913	1914	1915	1916	1917	Per cent increase or decrease (—), 1913-1917.
China.....	229	277	204	398	483	110.92
Hongkong.....	178	99	80	144	152	-14.61
British India.....	282	197	511	932	678	140.42
Straits Settlements.....	91	73	56	153	182	100.00
Dutch East Indies.....	83	65	93	296	290	249.40
Great Britain.....	332	395	1,597	1,319	144	-56.63
United States.....	829	1,034	1,101	2,430	3,790	357.18
Canada.....	43	46	96	342	389	804.65
Cape Colony and Natal.....	3	3	10	100	122	396.67
Australia.....	74	128	521	895	1,161	1,468.92
Other countries.....	346	275	264	631	1,019	194.51
Total.....	2,490	2,592	4,533	7,640	8,410	237.75

Among the exports of manufactures of wood are pencil boxes, tooth-picks, oak staves, and office furniture. The last named item, manufactured according to American designs, is sent principally to Australia.

It is a remarkable fact, showing the trend of Japanese industries during the war, that the exports of what used to be known as "Japanese goods," such as fans, bamboo and basket ware, mats and matting, and lacquered wares, have decreased. The explanation is found in the changing demand of American consumers rather than in changing conditions of production in Japan.

TRADE BY PARCEL POST—TRAVELING EFFECTS—RE-IMPORTS AND RE-EXPORTS.

Imports and exports of articles not included in commodity section, 1913-1917.

[Values in thousands of yen.]

Year.	Imports.			Exports.	
	Parcel post.	Traveling effects subject to duty.	Re-imports, Japanese produce.	Parcel post.	Re-exports, foreign produce.
1913.....	2,794	369	806	5,190	2,934
1914.....	3,029	282	1,234	6,045	4,304
1915.....	2,159	224	2,782	12,869	8,358
1916.....	4,780	390	1,494	34,665	10,724
1917.....	5,669	406	5,830	31,863	18,518

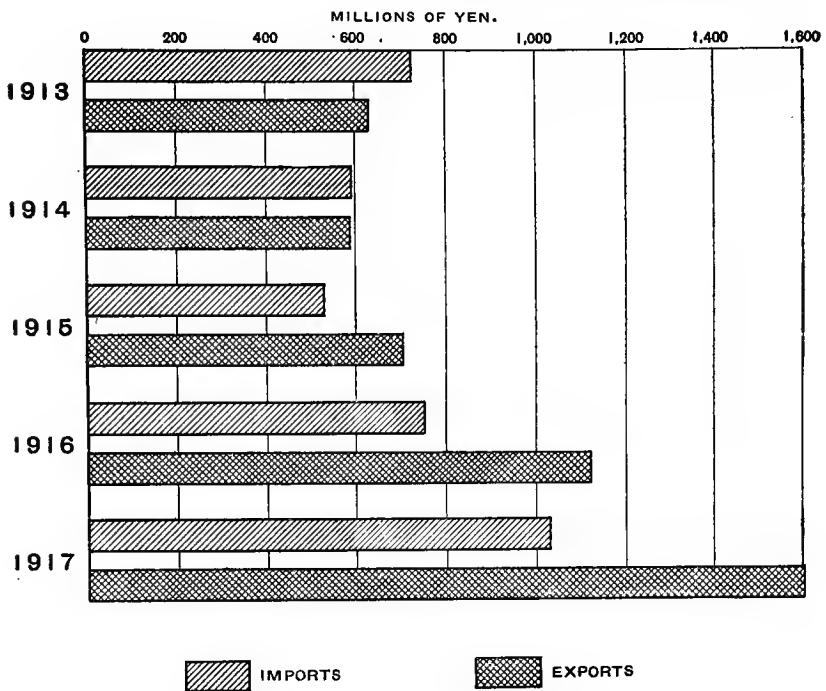
The large increase in the parcel-post shipments is accounted for largely by the fact that tonnage since 1914 had become so scarce and freight rates so high that this presented the most satisfactory method of shipment, particularly for small articles of value, for instance, surgical instruments, latch needles, etc. The congestion of parcel-

post packages has become so great that the Japanese Government is limiting the number of packages which it will accept for individual sailings of steamers.

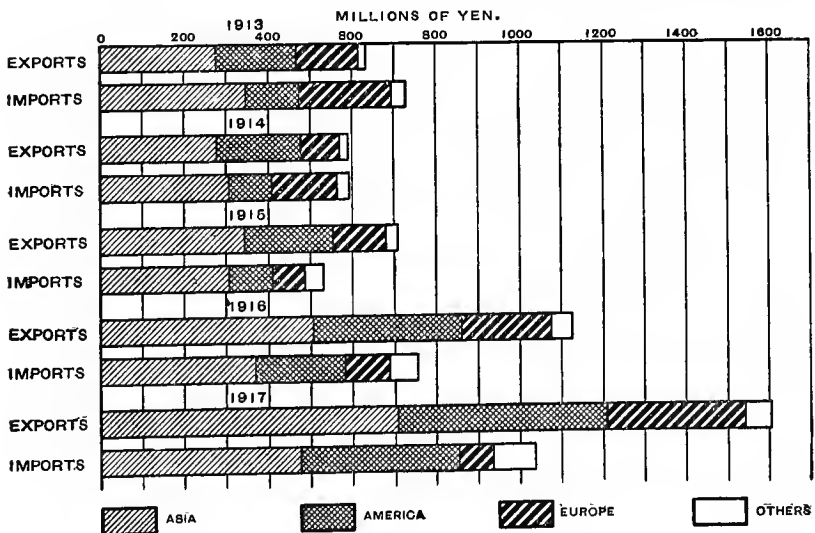
Re-exports of foreign produce increased from 2,934,000 yen in 1913 to 18,518,000 yen in 1917. Among the reexports are found linen tablecloths and doilies, imported originally from Ireland, embroidered in Japan, and later exported largely to the United States. American and English nainsook is also imported and made up into lingerie for the export trade. Some of the re-exported goods were probably German goods in bond.

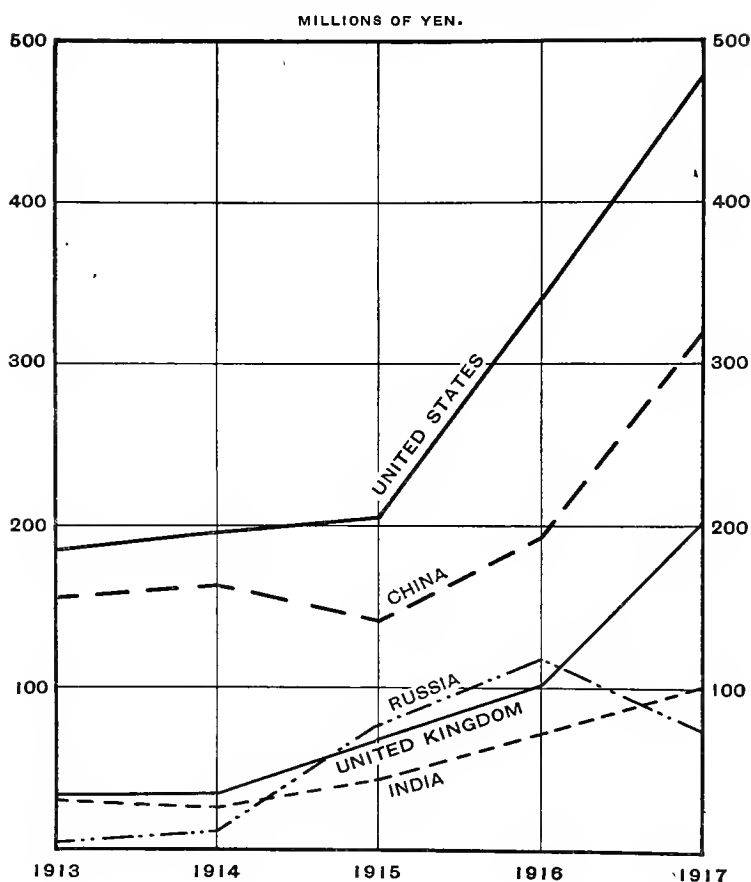
CHARTS SHOWING THE PROGRESS OF JAPANESE TRADE DURING THE WAR.

1.—Total value of commodities imported into and exported from Japan, 1913-1917.

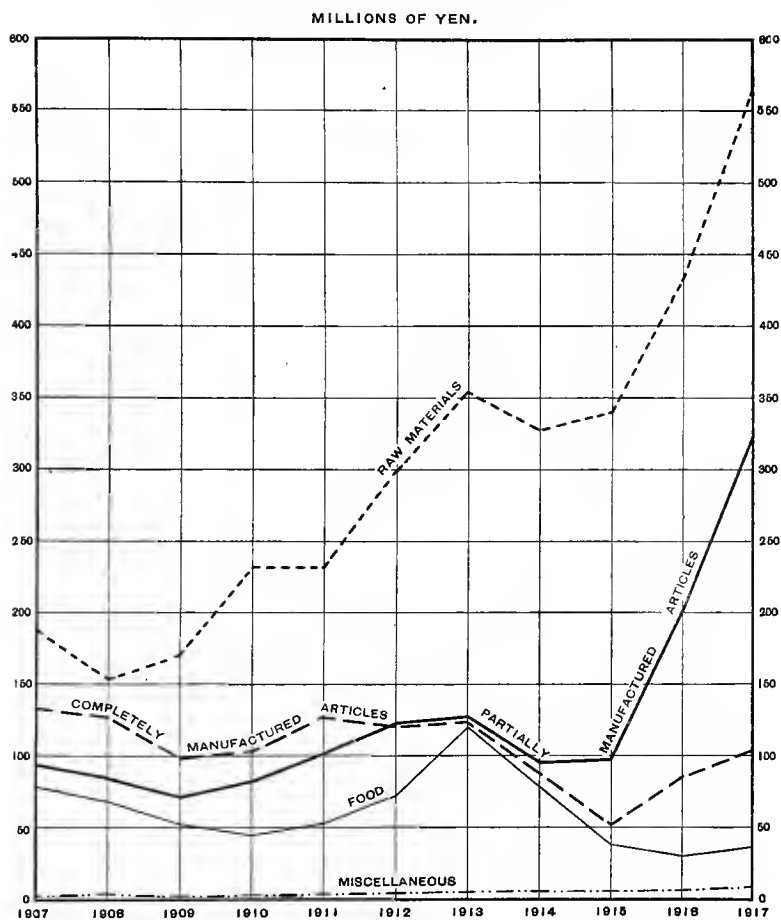


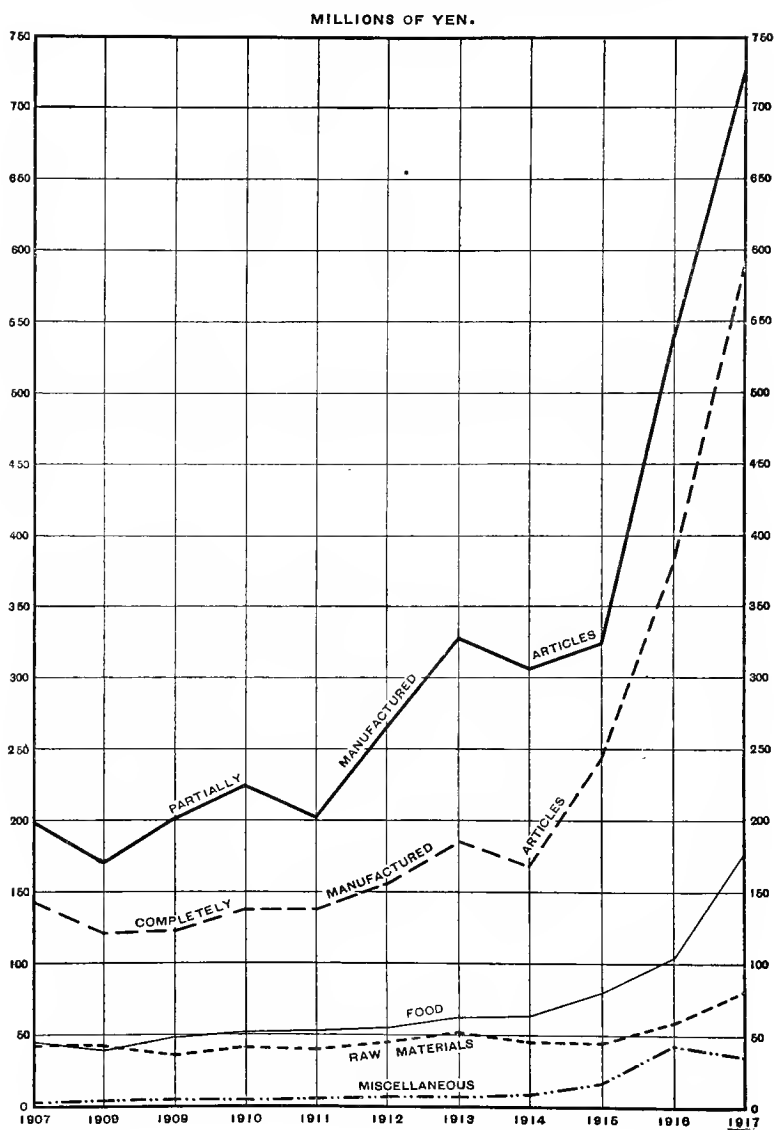
2.—Value of commodities imported into and exported from Japan, by regions, 1913-1917.



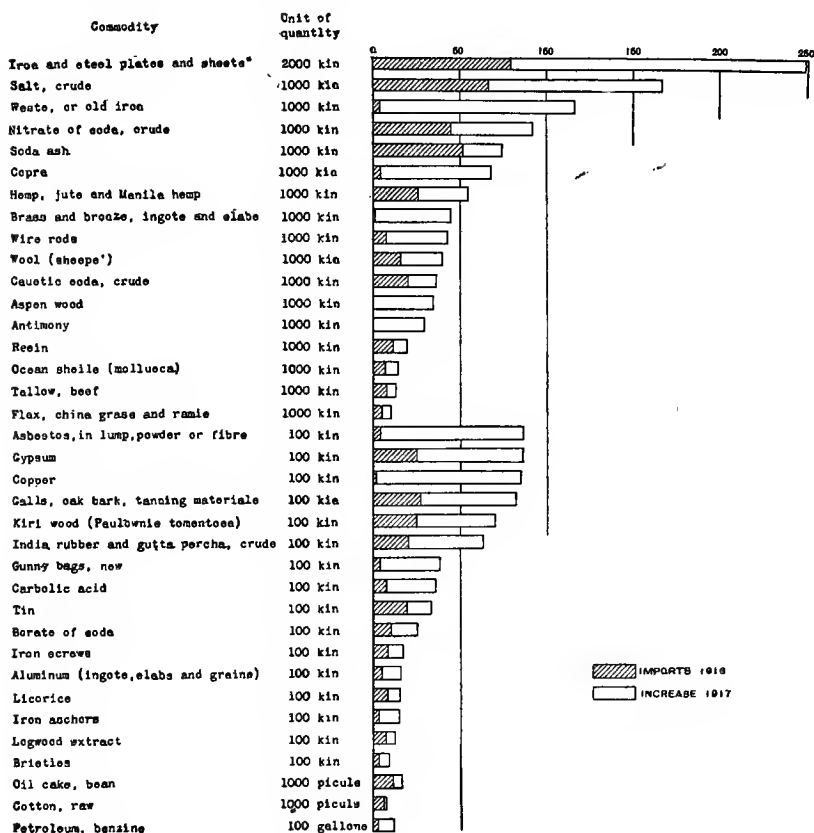
3.—*Exports from Japan to principal markets, 1913-1917.*

4.—Imports into Japan, by groups of commodities, 1907–1917.



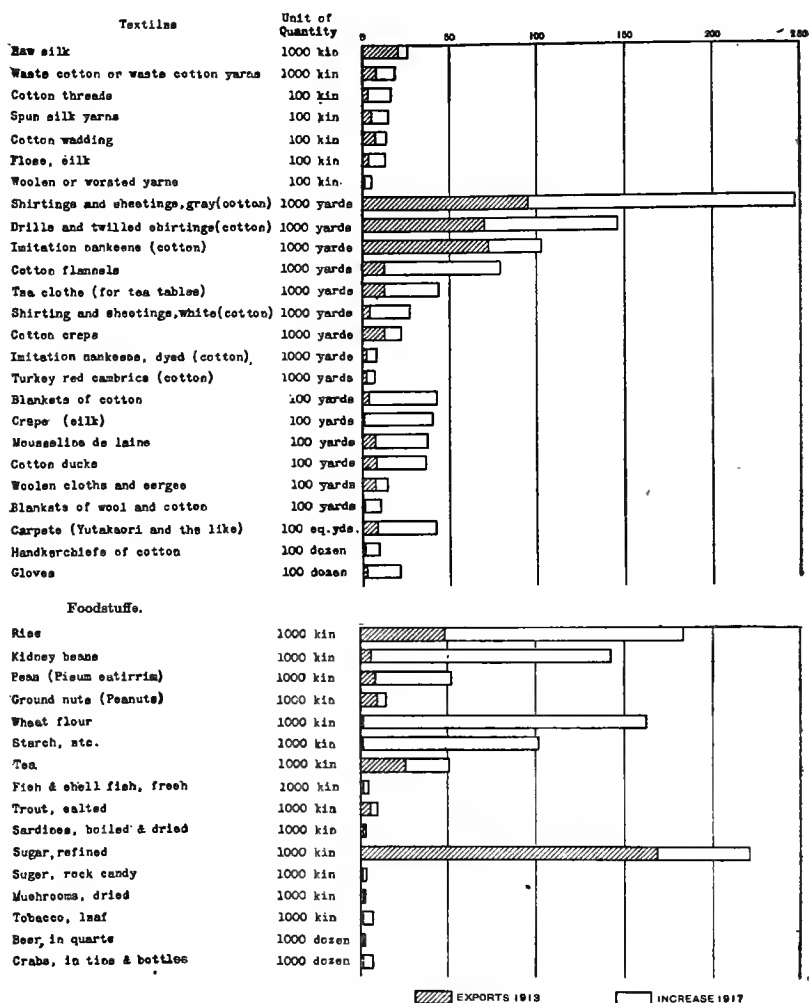
5.—*Exports from Japan, by groups of commodities, 1907-1917.*

6.—Increase in the volume of certain commodities imported into Japan, 1913-1917.

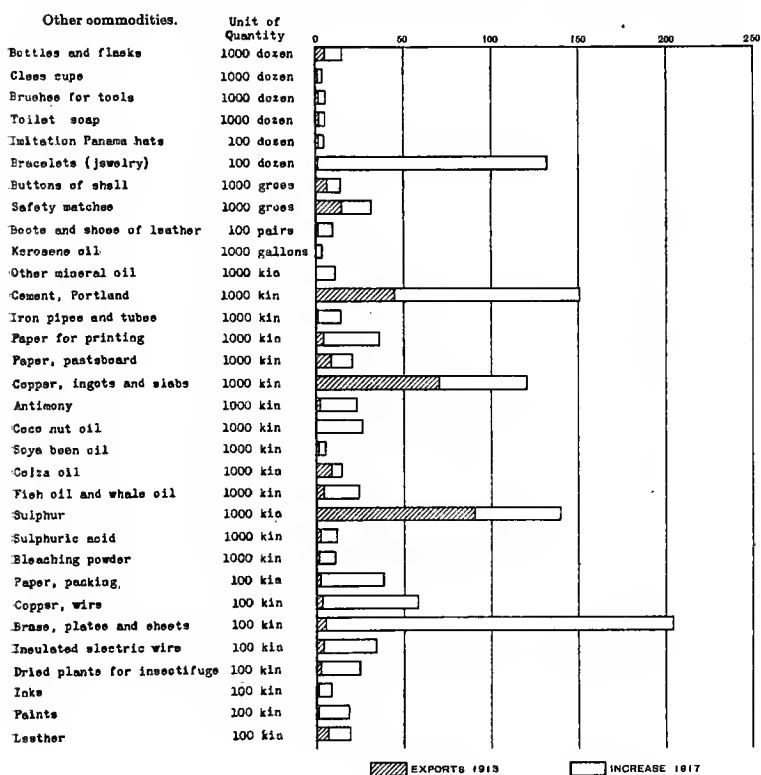


* Not coated with metals

7.—Increase in the volume of certain commodities exported from Japan, 1913-1917.



7.—Increase in the volume of certain commodities exported from Japan,
1913-1917—Continued.



III.

TRADE BETWEEN JAPAN AND THE UNITED STATES.

PLACE OF THE UNITED STATES IN THE TOTAL TRADE OF JAPAN.

Twenty years have brought about striking changes in the distribution of Japan's exports and imports among the individual countries which have shared in the total trade. In early years Great Britain was the most important source of Japan's imports, but she took only a small share of Japan's exports; the United States took as large a proportion of Japan's exports as Great Britain contributed to the imports, but sent to Japan in return only about two-thirds the amount of imports supplied by Great Britain. By 1913 Great Britain and the United States were contributing almost equally to Japan's imports, but the United States was taking of Japan's exports almost six times as much as the share taken by Great Britain. Since the outbreak of the war the exports to Great Britain have increased considerably, but the exports to the United States are still two to three times larger than those to Great Britain.

Table showing the order of importance of various countries in the import trade of Japan in selected years.

[Values in thousands of yen.]

Year.	First place.		Second place.		Third place.	
	Country.	Value.	Country.	Value.	Country.	Value.
1897.....	Great Britain.....	65,406	British India.....	29,776	China.....	29,286
1903.....	British India.....	69,894	Great Britain.....	48,737	United States.....	46,274
1904.....	Great Britain.....	74,993	British India.....	68,012	do.....	58,116
1905.....	do.....	115,380	United States.....	104,287	British India.....	90,227
1906.....	do.....	101,311	do.....	69,949	do.....	60,315
1907.....	do.....	116,245	do.....	80,687	do.....	74,593
1908.....	do.....	107,795	do.....	77,637	China.....	50,967
1909.....	do.....	86,228	British India.....	65,157	United States.....	54,043
1910.....	British India.....	106,361	Great Britain.....	94,701	China.....	68,570
1911.....	Great Britain.....	111,157	British India.....	99,696	United States.....	81,251
1912.....	British India.....	134,742	United States.....	127,016	Great Britain.....	116,147
1913.....	do.....	173,174	Great Britain.....	122,737	United States.....	122,408
1914.....	do.....	160,324	United States.....	96,771	Great Britain.....	92,302
1915.....	do.....	147,585	do.....	102,534	China.....	85,848
1916.....	United States.....	204,079	British India.....	179,465	do.....	108,639
1917.....	do.....	359,705	do.....	223,941	do.....	133,271

Table showing the order of importance of various countries in the import trade of Japan in selected years—Continued.

[Values in thousands of yen.]

Year.	Fourth place.		Fifth place.	
	Country.	Value.	Country.	Value.
1897.....	United States.....	27,031	Germany.....	18,143
1903.....	China.....	45,458	do.....	26,959
1904.....	do.....	54,810	do.....	28,697
1905.....	do.....	52,618	do.....	42,680
1906.....	do.....	57,397	do.....	42,500
1907.....	do.....	59,182	do.....	47,668
1908.....	British India.....	49,328	do.....	46,279
1909.....	China.....	46,887	do.....	40,218
1910.....	United States.....	54,699	do.....	43,946
1911.....	China.....	62,000	do.....	56,474
1912.....	Germany.....	61,076	China.....	54,807
1913.....	do.....	68,395	do.....	61,223
1914.....	China.....	58,306	Germany.....	44,922
1915.....	Great Britain.....	58,084	Australia.....	28,571
1916.....	do.....	81,732	do.....	43,333
1917.....	do.....	63,304	Kwantung.....	53,180

In 1916 the United States, for the first time, took the first place in Japan's import trade, imports into Japan from the United States having in one year increased by 100 per cent. In 1917 the United States remained easily first, her share in the imports into Japan being more than those of the next two competitors combined.

British India, Great Britain, the United States, and China have supplied Japan with the bulk of her imports. Up to 1914 British India's proportion had increased the most; that of the United States next; Great Britain, having lost her preeminence before 1900, was holding her own; China was falling behind. Since 1914 the United States has gone far ahead.

The share of the United States in the import trade of Japan in selected years, by percentages, has been as follows: 1897, 12.33; 1907, 16.32; 1913, 16.78; 1914, 16.24; 1915, 19.26; 1916, 26.98; 1917, 34.73. The average before 1913 was about 17 per cent; the average for five years from 1913 to 1917 has been 22.79 per cent, the great increase being accounted for, of course, by the very large increases in Japan's imports from the United States in 1916 and 1917.

Table showing the order of importance of various countries in the export trade of Japan in selected years.¹

[Values in thousands of yen.]

Year.	First place.		Second place.		Third place.	
	Country.	Value.	Country.	Value.	Country.	Value.
1897.....	United States.....	52,436	France.....	26,214	China.....	21,325
1903.....	do.....	82,724	China.....	64,994	France.....	34,279
1904.....	do.....	101,251	do.....	67,986	do.....	36,320
1905.....	China.....	98,682	United States.....	94,009	do.....	27,227
1906.....	United States.....	125,964	China.....	117,780	do.....	40,289
1907.....	do.....	131,101	do.....	85,619	do.....	45,533
1908.....	do.....	121,997	do.....	60,507	do.....	33,746
1909.....	do.....	131,547	do.....	73,083	do.....	41,520
1910.....	do.....	143,702	do.....	90,037	do.....	44,925
1911.....	do.....	142,726	do.....	88,153	do.....	43,575
1912.....	do.....	168,709	do.....	114,824	do.....	43,871
1913.....	do.....	184,473	do.....	154,660	do.....	60,230
1914.....	do.....	196,539	do.....	162,371	Great Britain.....	33,086
1915.....	do.....	204,142	do.....	141,123	do.....	68,494
1916.....	do.....	340,229	do.....	192,713	do.....	102,553
1917.....	do.....	478,537	do.....	318,381	do.....	202,646

¹ Disregarding Hongkong, Korea (1907 only) and the Leased Territory of Kwantung.

Table showing the order of importance of various countries in the export trade of Japan in selected years—Continued.

[Values in thousands of yen.]

Year.	Fourth place.		Fifth place.	
	Country.	Value.	Country.	Value.
1897.....	Great Britain.....	8,481	British India.....	5,563
1903.....	do.....	16,545	Italy.....	11,004
1904.....	do.....	17,644	do.....	12,071
1905.....	do.....	13,039	do.....	8,095
1906.....	do.....	22,553	do.....	11,808
1907.....	do.....	22,443	do.....	13,771
1908.....	do.....	25,521	British India.....	13,632
1909.....	do.....	27,093	do.....	14,426
1910.....	do.....	25,781	do.....	18,713
1911.....	do.....	23,824	do.....	20,316
1912.....	do.....	29,792	do.....	23,648
1913.....	do.....	32,870	do.....	29,873
1914.....	France.....	31,209	do.....	26,048
1915.....	do.....	42,293	do.....	42,202
1916.....	British India.....	71,617	France.....	64,007
1917.....	do.....	101,364	do.....	97,821

NOTE.—In some years Korea, Hongkong, or Kwantung held fourth or fifth place.

The United States has been for a long period the most important market for Japanese exports. In one year only since 1897 have the Japanese exports to the United States been exceeded by those to any other country: In 1905, as a result of exceptional conditions arising from the Russo-Japanese War then in progress, the exports to China exceeded those to the United States. In all other years since 1897 the exports to the United States have been considerably greater than those to any other country, the exports to China generally being next in importance. In 1913 the figures were as follows: Exports to all countries, 632,460,000 yen; United States, 184,000,000 yen; China, 154,000,000 yen; France, 60,000,000 yen; Great Britain, 32,800,000 yen; British India, 29,800,000 yen; Italy, 29,400,000 yen. In that year the United States took 29.2 per cent of the total Japanese exports, as compared with 24.3 per cent to China, and 19.3 per cent to France, Great Britain, and Italy combined.

A review of the export trade of Japan during the last 20 years shows that at no time has the United States taken less than 25 per cent of the Japanese exports, while from 1907 to 1916 the exports to the United States averaged 31.1 per cent of the total exports. The highest percentage ever taken by China was 27.7 in 1906, during the Russo-Japanese War; in other years the percentage of the total exports shipped to China was considerably less. The British maximum was 12.6 per cent, in 1917; the greatest proportion ever sent to British India was 6.3 per cent, in 1916. In most years the exports to the United States exceeded those to any other three countries combined. Of Japan's greatly increased exports in 1916 and 1917, 30.2 and 29.8 per cent, respectively, were sent to the United States. The United States has for a long time been and remains the best market for Japan's exports.

PLACE OF JAPAN IN THE TOTAL TRADE OF THE UNITED STATES.

The place of Japan in the total trade of the United States has been by no means as important as the place of Japan in the foreign trade of the United States. At no time, prior to 1918 (fiscal year ending June 30), has the trade of the United States with Japan constituted as much as 4 per cent of the total United States trade; the imports from Japan to the United States had never before 1916 constituted as much as 6 per cent of the total United States imports, and the exports from the United States to Japan have never constituted as much as $2\frac{1}{2}$ per cent of the total United States exports. The following figures show the place of the trade with Japan in relation to the total foreign trade of the United States:

Total trade of United States with Japan, 1911-1918.

Year ending June 30—	Total trade of United States.	Trade of United States with Japan.	Percentage trade with Japan is of total United States trade.	Total exports from United States.	United States exports to Japan.	Percentage exports to Japan are of total United States exports.	Total imports into United States.	United States imports from Japan.	Percentage imports from Japan are of total United States imports
1911.	\$3,576,546,000	\$115,249,000	3.22	\$2,049,320,000	\$36,721,000	1.79	\$1,527,226,000	\$78,527,000	5.14
1912.	3,857,587,000	134,086,000	3.47	2,204,322,000	53,478,000	2.41	1,653,265,000	80,607,000	4.88
1913.	4,278,892,000	149,375,000	3.49	2,465,884,000	57,742,000	2.34	1,813,008,000	91,633,000	5.06
1914.	4,258,505,000	158,561,000	3.72	2,364,579,000	51,206,000	2.17	1,893,926,000	107,356,000	5.66
1915.	4,442,759,000	140,400,000	3.16	2,768,589,000	41,518,000	1.50	1,674,170,000	98,883,000	5.91
1916.	6,531,367,000	222,115,000	3.40	4,333,483,000	74,471,000	1.72	2,197,854,000	147,644,000	6.72
1917.	8,949,403,000	338,554,000	3.78	6,290,048,000	130,427,000	2.07	2,659,355,000	208,127,000	7.83
1918.	8,874,345,000	552,676,000	6.23	5,928,286,000	267,731,000	4.52	2,946,059,000	284,945,000	9.67

The total trade of the United States with Japan in 1913 was 3.49 per cent of the total United States trade. The total trade of the United States with Japan in 1918 was 6.23 per cent of the total United States trade; the exports to Japan were 4.52 per cent of the total United States exports, and the imports from Japan were 9.67 per cent of the United States imports—these figures being considerable more than those of any previous year.

In 1917 the value of the Japanese imports of iron and steel from the United States exceeded by far that of any other American commodity imported. The combined imports of cotton, iron and steel, and other principal items from the United States during the period 1913-1917 were as follows:

Value and per cent of total imports from the United States, by principal articles, 1913-1917.

[Values in thousands of yen.]

Year.	Ginned cotton.		Iron and steel, raw, partly, or wholly fabricated.		Construction materials.		Machines and engines.		Petroleum (kerosene).	
	Value.	Per cent of total im-ports.	Value.	Per cent of total im-ports.	Value.	Per cent of total im-ports.	Value.	Per cent of total im-ports.	Value.	Per cent of total im-ports.
1913.....	64,220	52.46	6,922	5.65	3,496	2.86	9,056	7.40	7,577	6.19
1914.....	53,966	55.77	5,407	5.59	2,027	2.09	5,035	5.20	6,402	6.62
1915.....	55,654	54.28	13,403	13.07	678	.66	2,940	2.87	6,695	6.53
1916.....	79,370	38.89	49,201	24.11	799	.39	7,880	3.86	4,986	2.44
1917.....	84,085	23.38	166,979	46.42	9,317	2.59	17,551	4.88	4,904	1.36

TRADE BETWEEN JAPAN AND THE UNITED STATES DURING THE WAR.

JAPAN'S TRADE WITH THE UNITED STATES COMPARED WITH HER TRADE WITH OTHER LEADING NATIONS.

In the total trade of Japan the United States has continued during the years 1913-1917 to hold first place, followed by China, British India, and Great Britain in the order named. The trade with the four nations amounts to more than two-thirds of all Japanese trade (64 per cent in 1913 and 71 per cent in 1917). The trade of each of the four nations with Japan has increased during the war, that of the United States having grown with exceptional rapidity.

Japan's trade with the United States, China, British India, and Great Britain, 1913-1917.

[Values in thousands of yen.]

Year.	Total Japanese trade.	United States.		China.		British India.		Great Britain.	
		Value.	Per cent of total Japanese trade.	Value.	Per cent of total Japanese trade.	Value.	Per cent of total Japanese trade.	Value.	Per cent of total Japanese trade.
1913.....	1,361,892	306,882	22.53	215,884	15.85	203,047	14.91	155,607	11.43
1914.....	1,186,837	293,310	24.71	220,677	18.59	186,372	15.70	125,388	10.56
1915.....	1,240,757	306,676	24.72	226,970	18.29	189,788	15.30	126,578	10.20
1916.....	1,883,896	544,308	28.88	301,351	16.00	251,082	13.33	184,390	9.79
1917.....	2,638,816	838,242	31.77	451,652	17.12	325,240	12.32	265,951	10.08
Per cent Increase, 1913-1917.....	93.76	173.15	.....	109.21	.....	60.18	.....	70.9	.....

In the years immediately preceding 1914, her trade with the United States constituted about 23 per cent of Japan's total trade; the imports from the United States were about 17 per cent of Japan's total imports; and the exports to the United States about 30 per cent of Japan's total exports. During the war the value of Japan's imports from the United States has greatly increased; in 1917 it constituted 34.73 per cent of the total imports. Of the rapidly

growing exports from Japan the United States has continued to purchase about 30 per cent.

Japan's trade with the United States, 1913-1917.

[Values in thousands of yen.]

Year.	Imports from United States.		Exports to United States.	
	Value.	Per cent of total Japanese imports.	Value.	Per cent of total Japanese exports.
1913.....	122,408	16.78	184,473	29.17
1914.....	96,771	16.24	196,539	33.25
1915.....	102,534	19.26	204,142	23.82
1916.....	204,079	26.93	340,245	30.18
1917.....	359,708	34.73	478,537	29.85

Increase in Japan's imports from United States, 1913-1917, 193.86 per cent.

Increase in Japan's exports to United States, 1913-1917, 159.41 per cent.

IMPORTS FROM THE UNITED STATES.

Cotton.—In normal times, and up to and including 1916, the principal commodity imported into Japan from the United States was raw cotton. American raw cotton represents 25 per cent of all raw cotton imported into Japan from all sources. The following table shows the value of the cotton imported from the chief sources and its relation to the total Japanese import trade. The United States, British India, and China supply the raw material upon which Japan's growing industries have been most dependent.

Imports of ginned cotton, 1913-1917.

[Values in thousands of yen.]

Year.	Total import trade.	Imports of ginned cotton.			
		Total from all countries.	From United States.	From British India.	From China.
1913.....	729,432	231,481	64,220	143,012	16,206
1914.....	595,736	217,873	53,966	145,428	11,745
1915.....	532,450	216,472	55,654	139,705	15,067
1916.....	756,428	274,478	79,370	165,155	19,337
1917.....	1,035,811	329,954	84,085	204,311	30,297

The following table shows how large a place ginned cotton has held in the total imports of Japan from the United States:

Imports of cotton from United States, 1907-1917.

Year.	Total Imports of all com- modities from United States (1,000 yen).	Imports of ginned cotton from United States.		
		Quantity (500-lb. bales).	Value (1,000 yen).	Ratio to imports of all com- modities from United States.
1907.....	80,697	232,981	28,723	35.59
1908.....	77,637	213,289	26,462	34.08
1909.....	54,043	190,677	23,318	43.15
1910.....	54,699	118,587	17,193	31.43
1911.....	81,251	196,473	29,259	36.01
1912.....	127,016	499,262	64,601	50.86
1913.....	122,408	455,687	64,220	52.46
1914.....	96,771	365,232	53,966	55.77
1915.....	102,534	430,575	55,654	54.28
1916.....	204,079	588,327	79,370	38.89
1917.....	359,708	454,648	84,085	23.38

In 1917 raw cotton imports dropped to second place among Japan's imports from the United States, being exceeded in value by the imports of iron and steel, which in that year formed 46.42 per cent of the total imports from the United States. The enormous increase in the imports of iron and steel into Japan is largely the result of the expansion of the shipbuilding industry in that country. There has also been a great expansion in the metal and machine construction industries in Japan, calling for a greater supply of iron and steel. What is true of iron and steel also applies to construction materials (mostly steel rails) and machines and engines, of which the imports from the United States into Japan increased considerably in 1917.

American firms now furnish about 70 per cent of all iron and steel and their products imported into Japan. The only important American product whose imports into Japan have decreased during the war is petroleum.

A review of the war trade between Japan and the United States by groups and principal items of merchandise is found in the following pages.

TRADE BY GROUPS OF COMMODITIES.

GRAINS, FLOURS, STARCHES, ETC.

[Group II of Imports and Group I of Exports.]

Rice.—In this group the most important export from Japan to the United States is rice, of which the figure in 1913 was 1,400,000 yen and that in 1917 was 3,172,000 yen. Notwithstanding the rapid increase in Japan's rice exports to the United States, the share of the latter in this trade constituted in 1917 a smaller proportion of the total exports of Japanese rice than in 1913.

Wheat.—Before the war Japan purchased 75 per cent of her entire wheat imports from the United States. Subsequently, owing to high freight charges and to the increased demand for American wheat from Europe, the shipments to Japan decreased, until in 1917 they formed

only a small fraction of the total Japanese imports of this cereal. The American wheat has been replaced by Australian and Chinese wheat. In 1913 Japan imported wheat to the value of 12,351,000 yen, of which 9,492,000 yen, or 76.8 per cent, came from the United States. In 1916 the total imports of wheat were 1,356,000 yen, of which 19,000 yen, or 1.4 per cent, came from the United States. No imports of wheat from the United States are recorded in the Japanese statistics for 1917.

Wheat flour.—The Japanese imports of this item before the war were small, originating almost entirely in the United States. The imports in 1917 had become negligible, originating almost entirely in countries other than the United States.

Imports of wheat flour, 1913 and 1917.

Year.	Total imports.	Imports from the United States.
	Yen.	Yen.
1913.....	1,780,000	1,601,000
1917.....	59,000	7,000

Before the war the American flour was blended with the coarse Manchurian product and with Japanese flour. The American product is now too expensive for the Japanese market. Much flour consumed in Japan at present is milled from Manchurian wheat, unblended. During the war Japan has gained a considerable portion of the flour trade of the Far East, a trade formerly supplied almost entirely by the United States.

Beans and pease.—Before the war the United States was the most important market for Japan's beans and pease, 58 per cent of which came to this country. The exports to the United States decreased in 1914–1916, but showed a great increase in 1917, when they amounted to 64 per cent of the total Japanese export of these products.

Exports of beans and pease, including groundnuts, 1913 and 1917.

Year.	Total exports.	Exports to the United States.
	Yen.	Yen.
1913.....	2,290,000	1,333,000
1917.....	33,631,000	21,510,000

Starch.—The exports of starch to the United States have greatly increased in importance during the war. In 1913 Japan supplied only \$2,000 worth of starch to this country, or less than one-half of 1 per cent of the total American imports of this commodity. In 1917 the United States bought Japan's starch to the value of \$800,000. The total United States imports of starch in the latter year were \$974,000.

Oats.—In 1915 the United States imported 880,000 kin of oats from Japan. Before 1915 no exports of Japanese oats to the United States had been recorded in the official Japanese statistics.

BEVERAGES, COMESTIBLES, AND TOBACCO.

(Group III of Imports and Group II of Exports.)

Alcoholic liquors.—Japan imports wines and whiskies from the United States and exports saké to the United States and Hawaii.

Tea.—Japan's green tea finds its most important market in the United States. Japan also sends occasional shipments of black tea to the United States.

Exports of tea, 1913 and 1917.

Year.	Total exports.	Exports to the United States.	
		Value.	Per cent of total.
	Yen.	Yen.	
1913.....	10,076,000	8,848,000	87.81
1917.....	21,756,000	18,797,000	86.40

Miscellaneous comestibles.—Japan imports salted salmon from Canada and the United States in approximately equal quantities.

The United States supplies most of the condensed milk consumed in Japan. The Japanese imports of condensed milk have decreased during the war.

Japan exports small quantities of mushrooms and mandarins to the United States.

The United States is the most important market for Japanese soy.

Small quantities of colle or vegetable isinglass are exported from Japan to the United States.

Approximately 60 per cent of the total Japanese exports of crabs in tins and bottles goes to the United States.

For all comestibles in tins and bottles exported from Japan, the United States was the most important market until 1917; in 1917 a slightly larger proportion was exported to Great Britain than to the United States.

Exports of comestibles in containers, 1913 and 1917.

Year.	Total exports.	Exports to the United States.	Exports to Great Britain.
	Yen.	Yen.	Yen.
1913.....	3,321,000	1,668,000	474,000
1917.....	7,330,000	2,516,000	2,605,000

Tobacco.—More than 90 per cent of all the tobacco imported into Japan originates in the United States.

SKINS, HAIR, BONES, TEETH, ETC.

(Group IV of Imports and Group III of Exports.)

Japan imported hides and skins from the United States to the value of 517,000 yen in 1913. In 1917 the imports were 560,000 yen. Although the value of the imports from the United States has not

greatly changed, the share of the United States in the total trade decreased from 20 per cent in 1913 to 10 per cent in 1917.

Japan imports a considerable proportion of its supply of leather from the United States. The course of this trade during the war is shown by the following table:

Imports of leather, 1913-1917.

[000 omitted.]

Year.	From all countries.		From United States.			
	Quantity (kin).	Value (yen).	Quantity (kin).	Value (yen).	Per cent of total quantity.	Per cent of total value.
1913.....	2,114	2,344	1,241	1,185	58.70	50.55
1914.....	1,389	1,946	624	795	47.31	40.85
1915.....	1,413	1,908	601	764	42.53	40.04
1916.....	1,781	2,789	780	1,102	43.80	39.51
1917.....	934	2,162	295	807	31.58	37.33

A large proportion of the imports of leather from the United States consists of sole leather.

The bones used in Japan for the manufacture of tooth-brush handles are imported largely from the United States. Japan exports to the United States large quantities of furs and catgut.

OILS, FATS, ETC.

(Group V of Imports and Group IV of Exports.)

Imports of kerosene from the United States have decreased steadily during the war, from 33,145,000 gallons, valued at 7,577,000 yen in 1913, to 17,945,000 gallons, valued at 4,904,277 yen in 1917. This has been due to development of the Japanese petroleum industry, which has been accompanied by decreased importation from all countries.

There have been considerable increases in the imports of vegetable oils and paraffin wax from the United States.

The United States has become the most important market for the Japanese exports of colza oil, fish oil, and whale oil.

DRUGS AND CHEMICALS.

(Group VI of Imports and Group V of Exports.)

The United States has supplanted Germany as the chief source of Japan's supply of salicylic acid, carbolic acid, cocaine, and dynamite, all of which imports have been increasing, and of imports of gelatine, chlorate of potash, bromide of potash, milk sugar, aniline salt, detonators, explosives, and formalin, which are decreasing. This country has supplanted Great Britain in the export to Japan of caustic soda, which Japan is now exporting, and of glycerin, the import of which is declining. Imports into Japan of tanning materials, resin, and soda ash from the United States have increased. The export of matches, menthol, and camphor to the United States has been increasing.

DYES, PIGMENTS, COATINGS, AND FILLING MATTERS.

(Group VII of Imports and Group VI of Exports.)

The United States has supplanted European nations as the chief exporter of several articles. The larger part of logwood extract is now imported from the United States instead of from France as heretofore. Liquid gold and liquid silver and pencils, formerly imported from Germany, and white and red lead from Great Britain, are now imported mainly from the United States. Of these, the import into Japan of logwood extract alone is increasing in value.

The development of the dyes and pigments industry has had little effect on imports into the United States. This country imports practically no dyes, paints, or varnishes from Japan. There has been an increase in the importation of pencils of a low grade.

TEXTILES.

(Groups VIII, IX, and X of Imports and Groups VII, VIII, and IX of Exports.)

The United States has remained the chief market for Japanese raw silk, which has the highest value of all exports from Japan. The following table shows the trend of raw silk exports to the United States during the war:

Raw silk exports to the United States, 1913-1917.

[000 omitted.]

Year.	Quantity.	Value.	Per cent of total value of raw silk exports.
	<i>Kin.</i>	<i>Yen.</i>	
1913	13,341	125,909	66.65
1914	14,289	134,800	83.31
1915	14,863	127,349	83.77
1916	18,182	224,093	83.92
1917	22,063	306,170	86.21

The United States has also increased its share in the exports of waste silk from Japan. The following table shows the trend since 1913:

Exports of waste silk to the United States, 1913-1917.

[000 omitted.]

Year.	Quantity.	Value.	Per cent of total value of waste silk exports.
	<i>Kin.</i>	<i>Yen.</i>	
1913	564	1,003	9.58
1914	312	587	12.56
1915	996	1,477	24.81
1916	1,465	2,572	24.54
1917	1,973	4,667	28.20

Habutae is one of the most important textile fabrics exported from Japan. During the war the United States has become the largest purchaser of Japanese habutae.

Exports of habutae to the United States, 1913-1917.

[000 omitted.]

Year.	Quantity.	Value.	Per cent of total value of habutae exports.
	<i>Kin.</i>	<i>Yen.</i>	
1913.....	376	5,007	14.35
1914.....	492	6,796	22.00
1915.....	674	8,372	21.71
1916.....	793	12,799	31.01
1917.....	880	16,090	33.88

Japan depends upon the United States for about one-fourth of its imports of raw cotton, and, with the exception of the fiscal year ended June 30, 1918, cotton has been the principal item among the exports from the United States to Japan.

The quantity of American cotton imported by Japan has remained practically constant during the war, except in the year 1916, but on account of the increase in the price the value of the imports has increased considerably.

Imports of cotton from United States, 1913-1917.

[000 omitted.]

Year.	Quantity.	Value.	Per cent of total value of cotton imports.
	<i>Piculs.</i>	<i>Yen.</i>	
1913.....	1,720	64,220	27.49
1914.....	1,370	53,966	24.64
1915.....	1,615	55,654	25.61
1916.....	2,206	79,370	28.75
1917.....	1,705	84,085	25.41

PAPER.

(Group XI of Imports and Group X of Exports.)

The United States has never exported much paper to Japan, but this export has increased during the war about 580 per cent. Five per cent of the Japanese printing paper comes from the United States. From Japan the United States imports tissue paper and etching paper.

MINERALS.

(Group XII of Imports and Group XI of Exports.)

The only important minerals entering, in normal times, into the trade between the United States and Japan are phosphates (phosphorite) and coal (bunker coal for ships). Japan's imports of phosphates from the United States in 1914 amounted to 1,132,000 yen.

about one-seventh of the total imports of this product; no imports were reported after 1915. Bunker (lump) coal taken on board American vessels in Japanese ports, for the vessels' own use, is recorded as exports to the United States. The United States has also become an important source for Japanese imports of certain minerals and manufactures thereof, as shown by the following table:

Imports of minerals and manufactures thereof, 1917.

Article.	Total imports.		Imports from United States.		
	Quantity.	Value.	Quantity.	Value.	Per cent of total imports (value).
	<i>Kin.</i>	<i>Yen.</i>	<i>Kin.</i>	<i>Yen.</i>	
Mineral substances for grinding or polishing.....	882,563	158,598	718,186	131,134	82.68
Metal polishes.....	1,042,132	192,478	943,216	161,169	83.73
Grindstones or whetstones, artificial.....	209,836	183,439	205,143	180,003	98.13
Precious stones.....		1,414,410		79,263	5.60
Asbestos in lump, powder, or fibre.....	8,644,416	2,271,144	7,092,026	1,820,937	80.18
Other asbestos and manufactures thereof.....	686,705	245,954	75,714	125,326	50.95
Talc and soapstone.....	17,026,293	354,443	1,039,916	20,706	5.84
Gypsum.....	8,655,514	136,894	2,143,640	29,381	21.46
Cryolite.....	33,523	7,981	189	68	.85
Clay.....	31,749,566	431,013	507,386	32,407	7.52
Phosphorite.....	259,077,400	5,098,523			
	<i>Tons.</i>				
Coal.....	707,421	9,038,383			
Coke.....	51,451	1,608,205			
All other minerals and manufactures thereof.....		848,324		325,522	38.37
Total.....		21,989,789		2,905,916	13.21

POTTERY, GLASS, AND GLASS MANUFACTURES.

(Group XIII of Imports and Group XII of Exports.)

Fire brick.—The total imports of fire bricks into Japan have increased during the war, and the share of the United States in this trade has also increased. Imports of fire bricks into Japan were valued at 406,000 yen in 1913 and at 496,000 yen in 1917.

Pottery.—Japan both imports and exports pottery. Imports from the United States increased from 121,000 yen in 1913 to 160,000 yen in 1916 and to 331,000 yen in 1917. In the exports of pottery, those to the United States increased from 3,130,000 yen in 1913 to 4,942,000 yen in 1917. The share of the United States in Japan's exports of pottery was 47 per cent in 1913, but only 34 per cent in 1917.

Glass.—In the latter part of 1916 Japanese plate glass was exported to American cities on the Pacific coast because railway congestion prevented its transportation from the Eastern States of the United States. Thermos bottles have also been exported to the United States. The imports into Japan of sheet and plate glass from the United States have increased rapidly during the war; they amounted in 1916 to 1,190,000 yen and in 1917 to 1,034,000 yen. American glass has largely replaced the glass imported from Belgium and Great Britain before the war.

ORES AND METALS.

(Group XIV of Imports and Group XIII of Exports.)

The share of the United States in the trade of Japan in the important articles in this group has changed as follows:

Pig iron, ingots, blooms, billets, and slabs, 0.22 per cent to 14.16 per cent.

Rolled, cast, forged, or drawn iron and steel products, 7.5 per cent to 91.82 per cent.

Finished products, such as pipes and tubes, ribbons, wire rope, twisted wire, waste and other, 52 per cent to 89.40 per cent.

The import of lead ingots and slabs from the United States has increased 2,942 per cent.

Japan is sending manganese and tungsten to the United States.

METAL MANUFACTURES.

(Group XV of Imports and Group XIV of Exports.)

The United States has taken the lead from Germany as a source of iron nails for Japan. This country in 1917 supplied 98.10 per cent. In important construction materials the United States was already first in 1913 and had gained in 1917 almost a monopoly of the market. Her exports increased in value 166 per cent, and her share of the total rose from 45 per cent to 96 per cent.

CLOCKS, SCIENTIFIC INSTRUMENTS, VESSELS, ETC.

(Group XVI of Imports and Group XV of Exports.)

Japan's import of watches from the United States is increasing. The gains of the United States in this trade have been relatively greater than the corresponding increase from Switzerland, the other source of supply.

Before the war scientific instruments were being sent to Japan by Germany, Great Britain, and the United States, principally. The United States now leads in the supplying of that class of goods, and she has also taken the lead in the sale of machinery and engines. The exportation of automobiles from the United States to Japan is increasing.

Japan is selling surgical instruments and draftsmen's instruments to the United States. A number of vessels have also been sold lately by Japan to the United States Government as well as to individuals.

MISCELLANEOUS.

(Group XVII of Imports and Group XVI of Exports.)

The United States has been the largest market for the Japanese straw, chip, and hemp braids. In 1917 Great Britain became the largest buyer. The quantity and the value of the sales of braids to the United States in 1913 are shown in the following table:

Exports of hat braids to the United States, 1913-1917.

[000 omitted.]

Year.	Quantity.	Value.	Per cent of total value of braid exports.
	<i>Bundles.</i>	<i>Yen.</i>	
1913.....	18,599	6,769	43.14
1914.....	19,808	7,111	49.54
1915.....	23,855	7,052	49.90
1916.....	29,085	7,870	48.22
1917.....	27,461	7,807	42.06

Toys and brushes of Japanese manufacture have been exported in increasing quantities to the United States.

Exports of toys and brushes to the United States, 1913-1917.

[Values in thousands of yen.]

Year.	Toys.	Brushes.
1913.....	829	1,250
1914.....	1,034	1,495
1915.....	1,101	1,285
1916.....	2,430	2,146
1917.....	3,790	3,717

TRADE IN INDIVIDUAL COMMODITIES.

The following tables show the value and percentage of principal articles in the trade between Japan and the United States in comparison with the total Japanese imports and exports of the same articles:

Japan's principal exports to all countries and to the United States, 1913, 1915, 1916, and 1917.

(Compiled from Japanese official reports. Official reports of the United States include imports from all Japanese dependencies except (hosen (Korea) as from Japan.)

Article	1913			1915			1916			1917		
	To United States.		To all countries.	To United States.		To all countries.	To United States.		To all countries.	To United States.		
	Value.	Per cent of ex-ports to all coun-tries.		Value.	Per cent of ex-ports to all coun-tries.		Value.	Per cent of ex-ports to all coun-tries.		Value.	Per cent of ex-ports to all coun-tries.	
Rice.....	Yen. 4,372,979	32.01	9,676,969	Yen. 2,803,007	28.97	11,197,356	Yen. 2,122,283	18.95	14,662,546	Yen. 3,173,893	21.65	
Beans and peas..	1,400,062	41.17	8,123,414	1,358,401	16.72	14,553,670	4,520,388	30.43	31,795,629	19,949,905	62.74	
Peanuts.....	1,350,836	776,732	82.71	795,747	16.75	1,286,901	1,097,357	85.33	1,835,444	1,558,665	84.92	
Tea.....	939,043	8,847,732	87.81	13,183,786	85.62	16,081,977	13,308,641	82.75	21,756,246	18,797,366	86.40	
Silk.....	10,075,621	499,734	22.74	314,908	17.73	2,030,368	383,660	18.89	2,163,679	374,139	17.29	
Soy.....	955,060	339,848	37.68	987,140	30.47	1,110,421	381,729	34.38	1,431,876	604,639	41.65	
Soya-bean oil.....	1,468,551	69,049	25.18	301,571	30.95	1,021,202	840,769	82.30	1,248,205	1,187,493	95.13	
Sisal.....	1,578,780	932,577	60.33	932,577	91.07	3,305,323	1,850,769	55.98	4,454,747	1,946,252	43.69	
Cables in fms.....	1,178,712	135,963	76.08	207,684	91.52	3,305,323	2,251,568	68.37	3,993,247	1,347,189	33.77	
Cotton.....	1,343,693	36,796	2.74	333,884	11.52	3,769,156	2,054,111	55.28	3,993,247	2,586,648	65.03	
Cotton oil.....	1,410,776	206,840	20.22	308,324	31.13	3,769,156	2,054,111	55.28	3,993,247	2,586,648	65.03	
Vegetable wax.....	1,028,138	206,840	20.22	308,324	31.13	3,769,156	2,054,111	55.28	3,993,247	2,586,648	65.03	
Dried plums (for seedling).....	1,890,855	847,129	44.77	313,416	42.24	720,287	362,747	50.36	1,565,666	513,882	32.82	
Sulphur.....	2,257,784	434,138	19.42	967,049	38.87	6,215,539	1,200,069	19.30	6,112,793	780,028	12.61	
Camphor.....	2,872,854	479,326	16.68	890,439	25.62	6,215,539	3,124,999	49.69	5,304,157	2,440,417	46.01	
Nephrole crystal.....	829,672	10,939	1.32	936,276	51.87	2,410,628	812,220	33.69	1,594,327	930,375	58.36	
All other drugs.....	7,560,812	21,816	0.28	383,230	9.28	13,609,004	1,063,689	7.82	9,230,518	2,206,397	23.90	
Safety matches.....	662,716	185,670	28.02	325,849	2.99	16,174,038	1,400,977	8.66	19,607,425	1,716,297	8.75	
Cocoon.....	188,916	892,125	66.65	355,378	53.48	257,037,000	560,150	67.99	768,754	549,410	71.47	
Raw silk.....	1,188,916	892,125	66.65	127,349,115	83.76	257,037,000	224,092,974	83.91	356,155,034	306,170,369	86.21	

Silk tissues (pure goods, including habutae).....	39,347,328	5,183,077	13.18	43,219,447	8,610,457	19.92	50,031,778	14,196,578	23.04	62,857,728	19,484,446	31.00
Silk han ketchies.....	5,001,389	322,674	14.79	2,732,818	651,463	23.64	4,326,174	1,693,331	38.23	4,662,427	2,820,249	49.76
Silk nightgowns.....	322,074	322,674	36.17	722,586	250,569	34.67	832,569	260,569	30.98	805,375	292,716	36.56
Carpets and carpeting.....	733,369	423,524	56.22	990,712	575,911	58.08	2,371,917	1,507,892	63.60	2,519,218	1,766,852	69.74
Tablecloths:												
Embroidered or drawn work.....	1,131,940	697,875	61.61	1,387,557	921,051	66.38	2,080,070	1,373,216	66.01	1,083,872	707,911	66.54
Other.....	5,620,000	3,715,963	65.12	4,049,949	396,583	73.31	817,987	3,735,433	65.83	1,815,904	1,395,462	76.85
Hats, caps, and bonnets.....	15,691,251	6,768,594	43.13	3,309,000	1,980,129	60.03	4,664,000	4,385,971	46.22	5,981,870	3,150,199	52.66
Hat materials (straw, brail, etc.).....	3,311,908	1,110,410	34.43	14,313,517	7,052,001	49.91	10,318,414	7,869,734	48.22	18,171,771	7,807,413	42.97
Buttons.....	23,628,872	11,140,712	47.70	4,098,358	470,852	11.74	7,517,028	1,641,770	21.84	10,268,969	2,066,201	28.37
Coal (not including coke).....	28,183,901	3,304,087	11.72	19,236,725	63,092	33	20,405,969	110,719	.54	26,454,000	97,060	.42
Copper (bronzes and alloys).....	1,982,777	253,796	13.12	14,264,301	5,382,701	12.16	66,119,107	3,054,289	4.62	87,435,102	3,202,616	3.66
Railway sleepers.....	1,084,054	157,055	14.56	1,662,880	3,105,400	11.46	1,522,692	4,384,305	46.27	1,224,980	8,441,423	60.81
Antimony.....	974,148	406,428	41.72	7,707,422	3,105,400	11.46	9,476,528	4,384,305	46.27	8,441,423	641,548	94.17
Lily bulbs.....	4,074,165	2,925,730	72.15	2,280,811	1,317,611	57.77	2,833,307	1,698,378	59.31	2,170,570	1,525,505	70.29
Mats and matting (Hammocks).....	954,799	439,436	46.02	702,509	367,485	71.61	1,069,415	768,720	71.88	653,299	498,382	76.29
Bamboo baskets.....												
Brushes:												
Tooth.....	817,923	382,458	46.82	1,536,215	459,499	29.91	2,031,167	873,045	43.97	3,937,335	2,751,101	69.87
Other.....	1,466,295	867,066	59.14	2,335,806	536,620	23.85	4,270,540	1,273,319	38.32	2,137,222	965,751	45.19
Toys.....	2,497,792	828,869	33.29	4,533,486	1,100,709	24.28	7,040,020	2,430,016	34.81	8,409,518	3,790,490	45.07
Fertilizers.....	553,175	84,974	15.31	2,579,052	653,503	25.42	4,127,635	5,535,453	13.94	2,310,306	67,222	2.91
Fans.....	1,136,918	232,342	20.44	580,790	101,039	17.49	690,022	143,062	20.46	3,591,188	177,432	5.02
Pottery.....	3,140,000	3,140,000	46.70	6,984,164	2,919,436	41.80	12,104,000	4,191,289	34.60	14,473,934	4,941,791	34.14
Cotton tissues.....	33,665,684	316,680	.94	38,511,423	311,865	.81	60,051,000	1,428,262	2.42	27,438,251	1,655,000	1.30
Silk kimono.....				653,341	333,520	59.32	935,150	432,545	45.12	1,001,817	573,474	57.44
Other kimono.....				811,189	364,887	44.98	1,172,787	694,755	59.24	1,036,556	562,327	53.22
Silk waste.....				5,951,526	1,476,889	24.81	10,489,402	2,572,371	24.08	16,548,961	4,607,216	28.20
Colic or tin class, vegetable.....				1,706,064	166,261	9.75	2,446,862	379,182	15.49	1,954,983	250,463	12.81
Fish oil and whale oil.....				2,236,177	51,308	2.29	3,384,579	1,203,528	37.33	3,625,503	1,736,332	47.89
Flour other than wheat (including starch).....				1,069,292	30,304	3.65	4,955,731	1,374,192	26.32	15,152,289	1,911,905	12.62
Vegetables, fresh or dried, other than beans or peas.....				3,289,462	361,399	10.99	4,270,818	765,618	18.01	4,623,967	649,210	14.04
Manufactures of tissues, n. e. s. (embroidered, darned, or drawn work, other).....				3,685,785	1,066,788	28.64	4,667,345	1,570,818	33.65	2,271,102	739,316	32.55
European clothing.....				967,506	322,027	32.29	1,572,772	798,805	50.79	1,713,222	767,193	44.78
Paper and manila factors of.....				6,331,536	509,384	8.02	14,350,894	793,106	5.53	22,118,613	1,083,756	4.89
All other exports.....				257,173,855	8,728,876	3.39	425,388,412	14,807,540	3.48	654,027,527	35,190,930	5.38
Total exports.....	632,403,213	184,473,382	29.17	708,306,997	204,141,841	28.92	1,127,468,118	340,244,817	30.18	1,603,005,527	478,536,845	29.85

Principal imports from all countries and from the United States.

Article.	1913			1915			1916			1917		
	From United States.		Percent of imports from all countries.	From United States.		Percent of imports from all countries.	From United States.		Percent of imports from all countries.	From United States.		Percent of imports from all countries.
	From all countries.	Value.		From all countries.	Value.		From all countries.	Value.		From all countries.	Value.	
Wheat.....	Yen. 12,331,029	Yen. 9,491,501	76.8	Yen. 1,639,206	Yen. 223,772	13.6	Yen. 1,356,088	Yen. 19,050	1.41	Yen. 666,289	Yen. 6,604	.....
Wheat flour.....	1,730,065	1,600,711	89.9	1,194,388	174,210	89.6	94,739	19,050	81.49	58,990	6,604	11.20
Condensed milk.....	1,857,143	927,003	49.9	1,094,696	590,849	53.0	1,037,508	697,334	67.21	1,390,302	1,123,835	80.83
Tobacco leaf.....	835,275	809,280	97.0	789,297	726,091	91.99	504,078	459,308	91.1	397,463	323,794	82.72
Malt.....	728,314	.....	.....	420,415	383,272	91.17	848,967	726,190	85.54	2,025,163	1,885,766	93.07
Hides and skins, bull, ox, cow, and buffalo.....	2,187,386	503,785	23.03	5,908,800	582,614	9.86	8,046,168	807,726	10.79	3,773,698	286,438	10.24
Leather, dyed or colored.....	334,290	189,223	56.61	236,235	213,623	90.43	429,696	399,390	92.95	514,779	490,479	95.28
Sole leather.....	802,514	799,184	99.58	434,521	434,011	99.89	425,133	424,875	99.94	183,747	164,845	89.71
Mineral oils:												
Crude.....	258,071	35	.....	714,839	714,839	100.00	410,909	410,909	100.00	498,564	498,564	100.00
Petroleum in tins.....	3,690,905	3,690,905	100.00	4,372,296	4,215,116	96.4	2,596,830	2,595,479	99.95	2,273,230	2,140,584	94.16
Petroleum, other.....	7,411,043	3,886,236	52.41	4,031,379	2,490,290	60.6	2,974,118	2,387,608	80.28	3,031,682	2,763,693	91.16
Other illuminating.....	537,558	376,677	70.09	335,273	312,684	93.25	604,649	634,637	96.69	352,379	319,662	90.72
Other.....	1,184,199	1,054,992	89.08	1,041,140	1,025,306	98.47	1,453,823	1,428,398	98.25	1,395,720	1,384,484	99.20
Paraffine:												
Melting point below 45°.....	767,272	411,908	53.69	265,776	179,050	67.37	1,343,639	1,196,448	89.05	522,950	353,800	67.65
Other.....	1,037,927	317,907	30.63	1,807,706	444,210	24.57	2,337,851	572,379	24.48	3,268,612	592,868	18.14
India rubber and gutta percha (crude).....	3,451,842	200,224	5.80	3,431,593	117,638	3.43	7,296,007	134,890	1.86	9,130,225	202,422	2.22
Caustic soda (crude).....	1,314,756	14,369	1.09	1,256,452	373,523	29.65	2,939,498	2,493,270	84.68	6,406,694	6,352,551	99.12
Resin.....	967,783	697,816	72.11	767,980	648,493	84.43	2,332,247	1,886,205	80.96	1,987,258	1,860,726	93.64
Chlorate of potash.....	1,052,097	.....	.....	2,880,377	1,378,594	47.87	1,761,960	586,334	33.25	154,943	16,175	10.44
Bichromate of potash.....	72,448	52,411	72.08	315,936	317,750	98.67	734,234	514,514	69.32	499,725	499,725	100.00
Acetate of calcium.....	552,846	552,832	100.00	317,200	317,018	100.00	204,839	204,839	100.00	62,248	62,248	100.00
Morphine, hydrochlorate of and sulphate of.....	437,253	.....	.....	2,415,139	291,467	12.06	3,850,812	108,070	2.80	5,077,841	24,687	0.49
Miscellaneous drugs, other.....	3,682,613	311,276	8.43	3,172,797	1,268,692	39.67	4,988,892	3,072,262	61.57	5,394,605	2,925,689	54.23
Logwood extract.....	135,410	1,332	1.03	807,253	438,466	54.32	349,462	3,165,052	47.23	1,102,847	817,648	74.14
Ground cotton.....	21,480,883	64,220,345	27.74	216,471,732	55,683,718	25.7	274,477,777	79,370,081	28.92	329,953,588	84,085,431	25.48
Sheeps wool (top and other).....	15,997,049	29,040	0.18	30,584,249	46	.....	333,506,099	28,590	0.08	52,112,457	131,073	0.25
Pulp for paper making.....	4,620,477	113,622	2.45	5,974,892	213,541	3.57	9,017,719	1,205,173	13.36	2,800,741	811,772	28.98

Phosphoric.....	8,617,514	955,027	11.12	3,402,683	2,730,015	5,098,523	39,474,759	85.13
Iron bars, rods, T angle, and like.....	13,840,079	635,347	4.59	5,601,838	22,507,892	46,360,424	4,309,603	76.61
Wire rods.....	1,567,532			1,080,749	4,013,511			
Plate or sheet iron (not coated with metal).....	8,620,850	1,435,015	16.64	7,733,155	3,110,189	91,395,551	87,515,878	95.75
Plate or sheet iron, galvanized.....	3,160,086	486,224	15.40	7,792,412	322,822	203,003	521,854	90.25
Plates and sheets tinued, ordinary.....	4,603,305	64,222	1.39	4,702,181	976,358	5,968,729	11,068,637	91.40
Wire, not coated with metals.....	572,036	74,662	13.05	383,269	302,055	504,641	1,158,776	88.93
Wire, galvanized.....	2,447,193	41,426	1.69	3,175,377	2,968,518	3,796,809	5,858,755	97.58
Pipes and tubes, elbows, and joints drawn, etc.....	6,934,000	3,653,000	52.68	1,380,000	1,071,000	7,255,000	7,879,000	89.47
Aluminum.....	223,706	175,534	78.49	424,257	297,179	2,043,760	2,694,803	94.21
Lead ingots and slabs.....	2,615,900	33,248	1.27	2,910,043	498,109	3,292,754	1,003,535	17.09
Zinc ingots, slabs, and grains.....	1,586,201	140,914	8.90	1,277,945	220,770	1,966,454	1,794,077	1.87
Nickel ingots and grains.....	1,431,473			1,601,413	357,488	2,008,564	1,031,989	44.20
Nails, rivets, screws, etc.....	2,398,069	712,468	20.71	368,605	508,586	4,304,378	3,983,604	92.64
Rails.....	4,086,333	1,921,611	47.03	603,382	546,908	5,044,328	3,795,084	97.77
Posts for electric lines, and parts thereof.....	2,266,091	257,832	96.93	1,882	1,833	440,883	8,814,151	90.34
Materials for construction of buildings, bridges, vessels, docks, etc.....	2,871,501	1,145,838	39.91	152,700	72,436	293,093	365,905	80.67
Insulated electric wire covered with metal.....	1,860,961	36,229	1.96	107,911	16,707	293,845	2,984	2.28
Mechanics' tools, agricultural implements, etc., and parts.....	497,457	228,799	46.18	184,261	117,350	68,609	648,437	90.12
Iron manufactures (miscellaneous, other).....	770,319	164,143	21.31	397,684	129,842	324,405	1,194,115	718,209
Railway carriages and parts thereof.....	2,074,515	808,534	38.98	619,101	327,507	298,975	176,637	2,198,363
Automobiles and parts.....	1,110,045	487,325	43.9	165,265	76,744	713,485	601,646	2,633,294
Locomotives and tenders.....	2,386,710	1,666,385	69.81	228,335	88,182	120,544	111,969	100.00
Dynamos, electric motors, transformers, etc.....	1,447,908	39,57	30.57	501,406	337,170	391,958	1,129,644	95.30
Gas compressors.....	297,930	146,479	49.16	128,773	89,881	65,204	74,89	74.14
Sewing machines.....	809,910	622,240	76.83	243,156	153,604	63.17	78,37	96.72
Metal or woodworking machinery.....	3,279,026	782,925	23.87	800,918	483,085	54.22	1,783,414	3,452,183
"All other," machinery (miscellaneous).....	4,978,552	1,694,557	34.04	908,077	498,470	2,593,394	1,489,426	3,353,721
Pine and fir wood.....	1,279,771	1,012,742	79.13	406,613	402,437	81.04	724,083	4,090,726
Salted salmon and trout.....	430,290	210,390	48.90	128,446	20,431	71,889	3,068,764	2,870,971
Paper.....	7,237,474	293,680	4.05	3,027,655	435,833	5,827,468	76.01	38
Steam vessels.....	4,000,600	162,780	4.07	2,634,884	180,000	6.83	25.26	1,995,000
Carbolic acid.....	251,482			312,063	135,200	1,472,014	80.72	40.52
Asbestos and manufactures thereof.....	236,566	4,155	1.58	275,880	179,972	3,665,620	98.47	1,798,128
Glass, sheet and plate.....	2,921,009	1,000	.03	372,800	574,228	8,730,003	7,748,861	4,798,128
Iron and steel, raw or partly fabricated.....	12,366,000	27,000	22.22	7,960,000	218,000	1,190,127	2,157,098	1,946,263
All other imports.....	314,496,863	10,561,144	3.36	184,478,072	9,560,446	25,238,000	3,574,000	42,883,236
Total imports.....	729,431,644	122,408,361	16.78	532,449,938	102,534,279	766,427,910	204,078,950	359,707,853
							26.98	1,035,811,107
								332,638,442
								352,638,442
								359,707,853
								34.73

TRADE OF THE UNITED STATES WITH ASIATIC COUNTRIES.

The following table shows the trade of the United States with Japan as compared with other Asiatic countries:

Trade of the United States with Asiatic countries.

IMPORTS.

	Years ending June 30—					Per cent increase, 1917 over 1913.
	1913	1914	1915	1916	1917	
Imported from—						
Japan.....	\$91,633,240	\$107,355,897	\$98,882,638	\$147,644,228	\$208,127,478	127.13
China.....	39,010,800	39,382,978	40,156,139	71,655,045	105,905,531	171.48
Chosen (Korea).....	5,133	8,121	8,753	64,487	301,223	5,768.36
British India.....	67,949,259	73,630,880	51,932,703	71,745,626	102,106,682	50.27
Dutch East Indies.....	6,221,954	5,334,361	9,245,784	27,716,589	62,011,236	896.65
Asiatic Russia.....	2,356,527	2,488,973	881,659	2,302,858	4,018,109	70.51
Siam.....	116,565	146,545	242,391	237,250	109,442	.....
All other Asia.....	69,201,299	58,604,731	46,370,036	115,815,381	132,637,702	91.67
Total.....	276,494,777	286,952,486	247,770,103	437,181,464	615,217,463	122.50
Philippine Islands.....	21,010,248	18,162,312	24,020,169	28,232,249	42,436,247	101.98
Total imports from all countries..	1,813,008,234	1,993,925,657	1,674,169,740	2,197,883,510	2,659,355,185	46.68

EXPORTS.

	1913	1914	1915	1916	1917	
Exported to—						
Japan.....	\$57,741,815	\$51,205,520	\$41,517,780	\$74,470,931	\$130,427,061	125.88
China.....	21,326,834	24,698,734	16,402,475	25,131,459	37,195,608	74.41
Chosen (Korea).....	1,370,926	1,266,263	1,185,444	675,454	2,083,314	52.04
British India.....	11,040,039	10,854,591	11,696,094	19,297,016	28,396,043	157.21
Dutch East Indies.....	3,151,693	3,676,895	2,771,779	7,401,026	21,139,305	570.87
Asiatic Russia.....	1,101,419	1,214,506	23,853,151	131,111,792	130,206,338	11,726.16
Siam.....	485,058	836,870	619,707	774,956	1,128,872	132.58
All other Asia.....	18,838,836	19,672,237	16,921,063	19,748,247	29,673,167	57.52
Total.....	115,056,620	113,425,616	114,470,493	278,610,881	380,249,708	230.49
Philippine Islands.....	25,384,793	27,304,587	24,755,320	23,421,172	27,206,612	7.18
Total exports to all countries.....	2,465,884,149	2,364,579,148	2,768,589,340	4,333,482,385	6,290,048,394	155.08

Total trade of Japan and of the United States.

The following table shows the increases in the foreign trade of Japan compared with increases in the foreign trade of the United States for the calendar years 1913 and 1917:

[000 omitted.]

Year.	Japan.					
	Total trade.		Imports.		Exports.	
	Value.	Per cent increase, 1917 over 1913.	Value.	Per cent increase, 1917 over 1913.	Value.	Per cent increase, 1917 over 1913.
1913.....	Yen. 1,361,892	93.76	Yen. 729,432	42.00	Yen. 632,460	153.45
1917.....	2,638,816		1,035,811		1,603,005	

Total trade of Japan and of the United States—Continued.

Year.	United States.					
	Total trade.		Imports.		Exports.	
	Value.	Per cent increase, 1917 over 1913.	Value.	Per cent increase, 1917 over 1913.	Value.	Per cent increase, 1917 over 1913.
	<i>Thousands of dollars.</i>		<i>Thousands of dollars.</i>		<i>Thousands of dollars.</i>	
1913.....	4,277,348	114.71	1,793,038	64.70	2,484,310	150.82
1917.....	9,183,713		2,952,468		6,231,245	



